

# THE CONTRACT JOURNAL

INCORPORATING

THE BRITISH CONSTRUCTIONAL ENGINEER AND THE CONTRACTOR

No. 4,292 83rd YEAR

THURSDAY, SEPTEMBER 28, 1961

PRICE 2/-

## Buildmaster<sup>Regd</sup> CRANES

### Reach even greater Heights

398 feet up — towering above the London scene — these Buildmaster Climbing Cranes work at the highest point in the Capital. Sir Robert McAlpine & Co. chose Buildmaster SK25N Climbers for the Shell International Petroleum Co. Ltd. contract; another endorsement of Buildmaster supremacy where rugged reliability is needed."

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LENGTH OF JIB, VARIABLE UP TO 92 ft.  
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*Write for Publication No. 408 T.E.*

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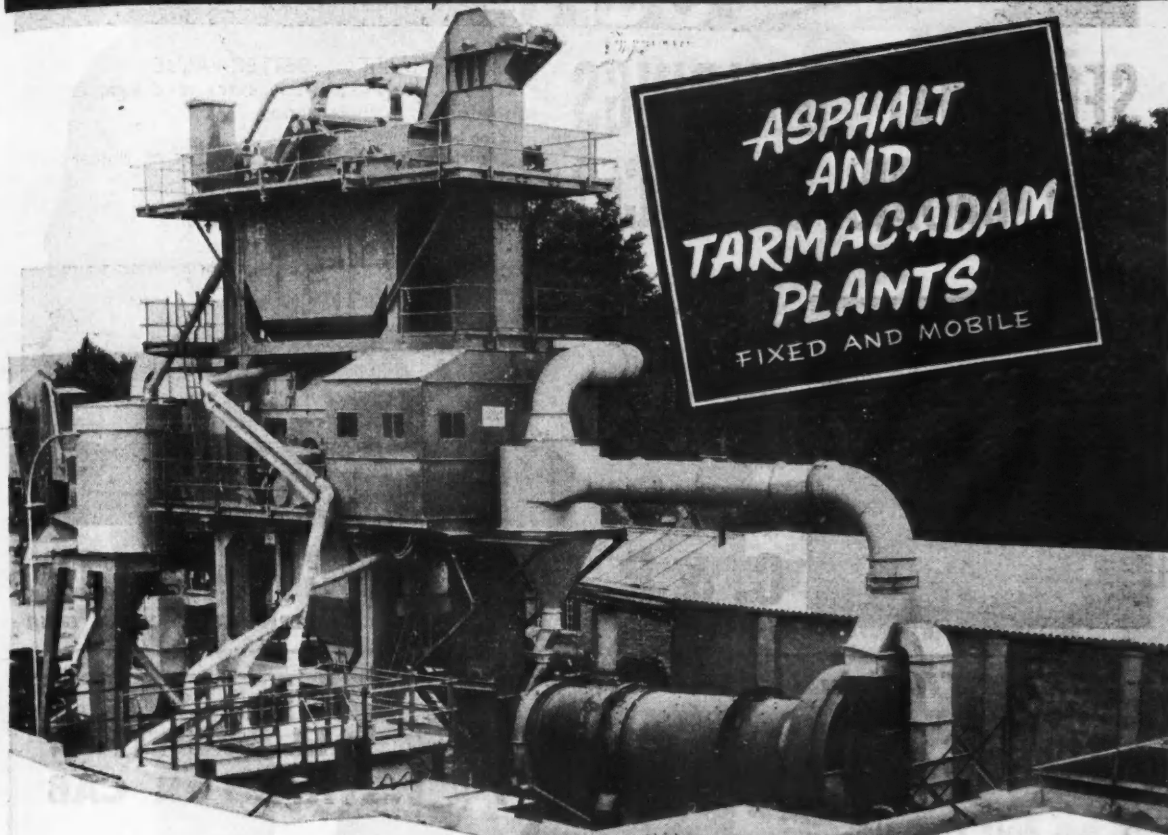
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For every surfacing job—big or small—highways or service roads, airfields or car parks, or patching roads, top producers have chosen PARKER. Parker Asphalt and Tarmacadam Plants are ranged for any type of production at outputs from 5 to 200 tons an hour, from simply designed plants for tarmacadam to those for producing hot asphalt to the most stringent specifications. All combine features essential for mixing high quality material at lowest cost. Many include, as standard, Parker's latest developments:—"Synchromix" mixing technique—"Hy-way" Oil Heating—"Parkermatic" pneumatic control.

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**PARKER — the TOP name in Asphalt and Tarmacadam Plant!**

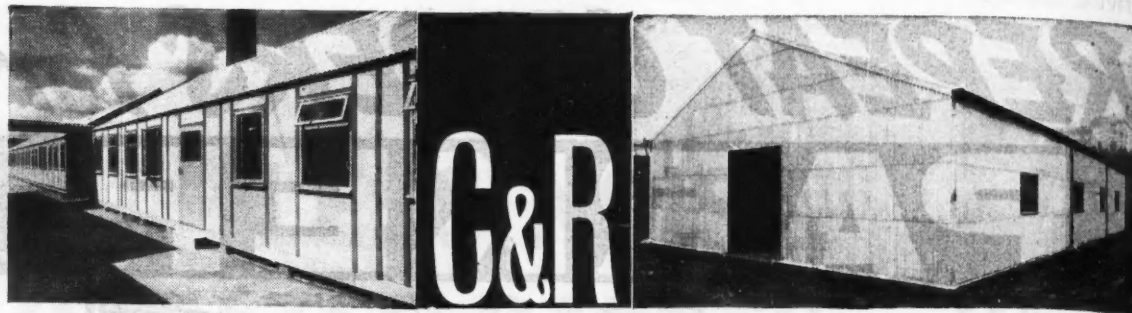
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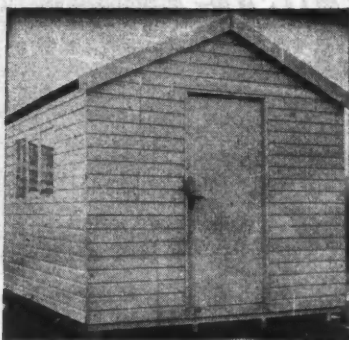
C & R gives that little extra in design, in materials, in construction.

(Top left)

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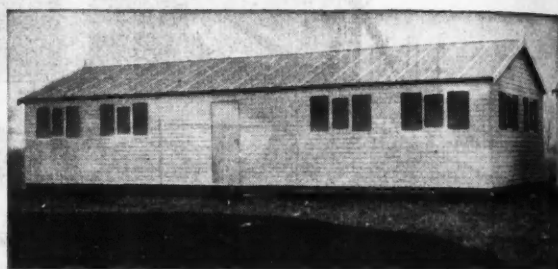
(Above)

An example of our sheeting service.



Site cabins & offices — a comprehensive range of sizes is available of all timber design — Weatherboard — Tongued and Grooved Board or Ply-wood cladding being optional.

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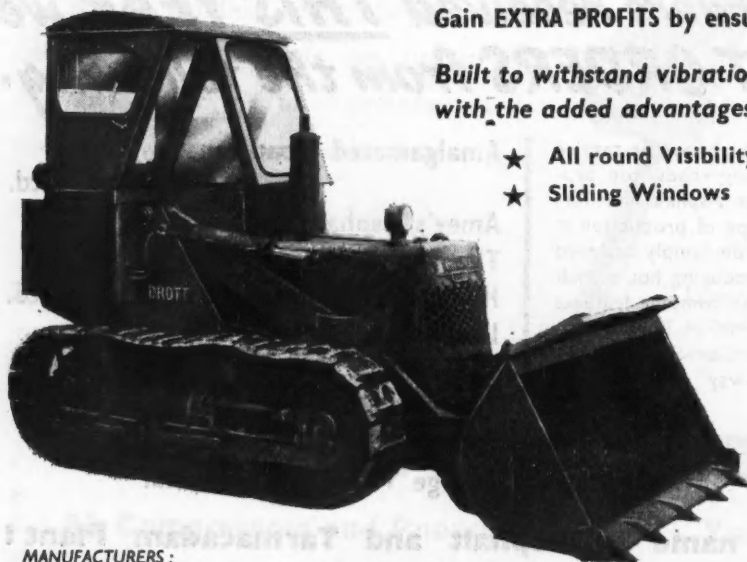
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**Suitable for fitment to the INTERNATIONAL B6K3 "DROTT" SKID SHOVEL**

Gain EXTRA PROFITS by ensuring MAXIMUM WORKING HOURS

*Built to withstand vibration and heavy duty  
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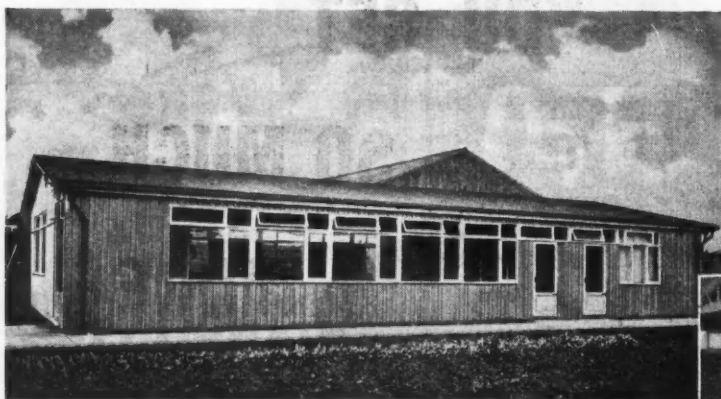
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CANTEEN

Photographs by courtesy of Vaga Lingerie Ltd., Shoreham-by-Sea, Sussex.

The most economical and expeditious way of installing a Canteen is to employ one of Thorns timber-framed buildings, perhaps similar to the one shown here.

Full details of the building shown and all Thorns building systems are given in their new catalogue, which is unique, in that it gives at a glance, sizes, prices, plans and specifications. It is available, free, to bona fide enquirers.

think of  
**TIMBER  
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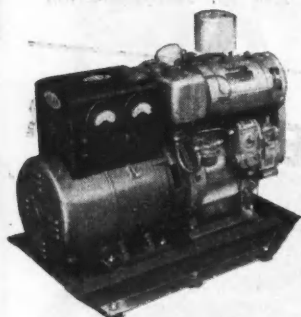
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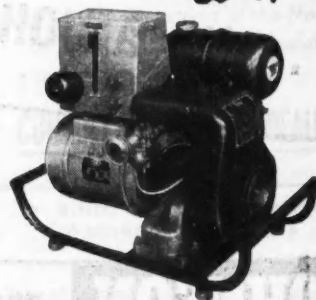
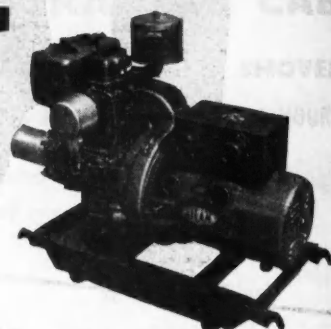
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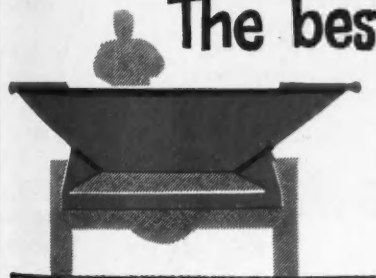
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Strength · Balanced Design · Reliable

Thwaites Two-way side discharge dumper doubles up dumper versatility. Provides hydraulically controlled side discharge of material to left or right of dumper whilst travelling under load. Discharge is by finger tip control on steering column, 1' 3" above ground level. Lip of the skip is within the driver's vision at all times. Low centre of gravity, balanced design, ruggedness of construction. All features that add up to Thwaites value for money.

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# MORE MACHINE FOR YOU WITH THE

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# THE **JCB** 4L IN ACTION



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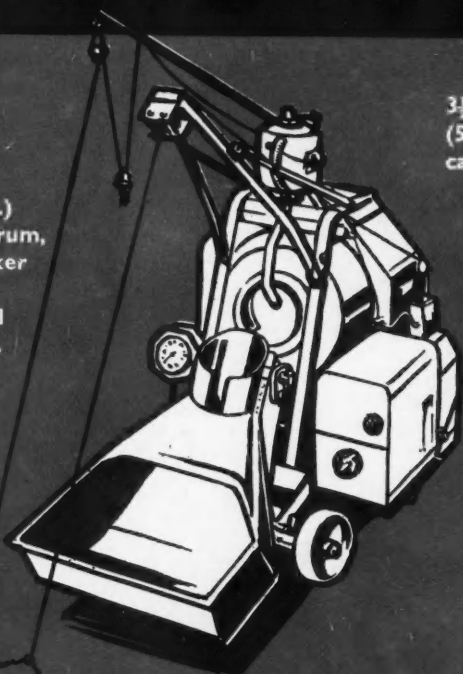


Recipe for successful contracting

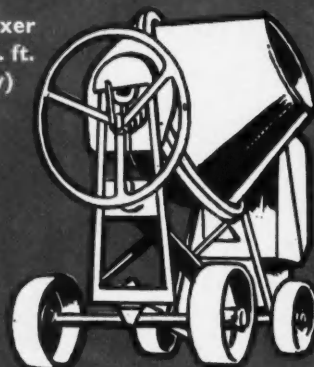
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MIX WELL &  
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reversing drum,  
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with batch  
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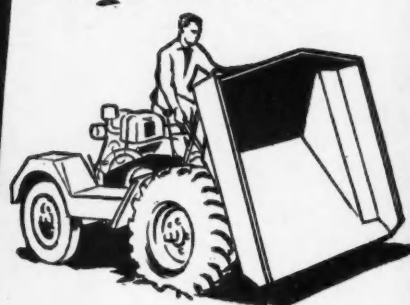
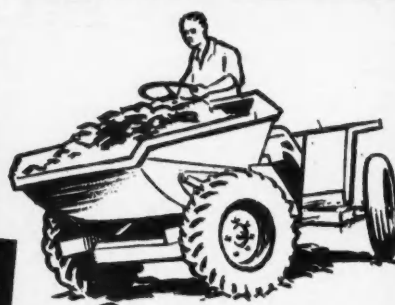


3 1/2 T Mixer  
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capacity)



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'Designed for Diabolical conditions'

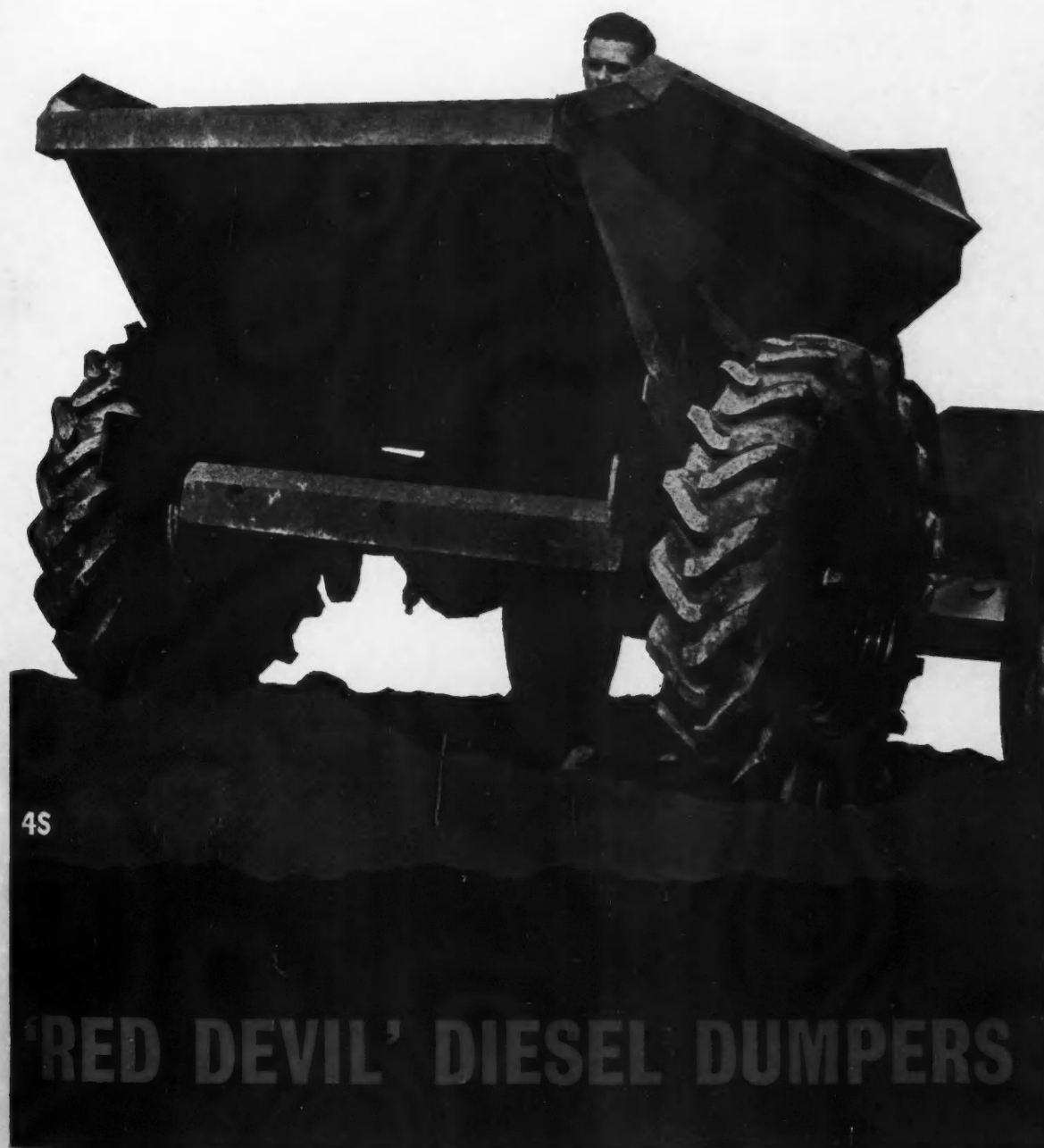




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- \* Only 18 ft. turning circle for extra manoeuvrability**
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*Many other features*



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SUPPLEMENT

28/9/61 THE CONTRACT JOURNAL 11



Tremendously powerful machines are necessary to meet the modern challenge of great road-building projects — like this massive 13-ton Vogeles single-pass mix-in-place soil stabiliser now being used by The Cementation Company on the new Bristol-Birmingham motorway. It scarifies, pulverizes, mixes, spreads, levels and compacts in **one pass**. About one million square yards of sub-base stabilisation are involved in this 27½ mile long 88-ft wide double carriageway. Cementation has the high-speed plant and the experience to ensure impressive daily outputs — whether the

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Soil stabilisation is one of the Cementation Group's world-wide comprehensive engineering services which embrace mining and civil engineering, building, piling, vibroflotation, cementation, guniting and site investigation.

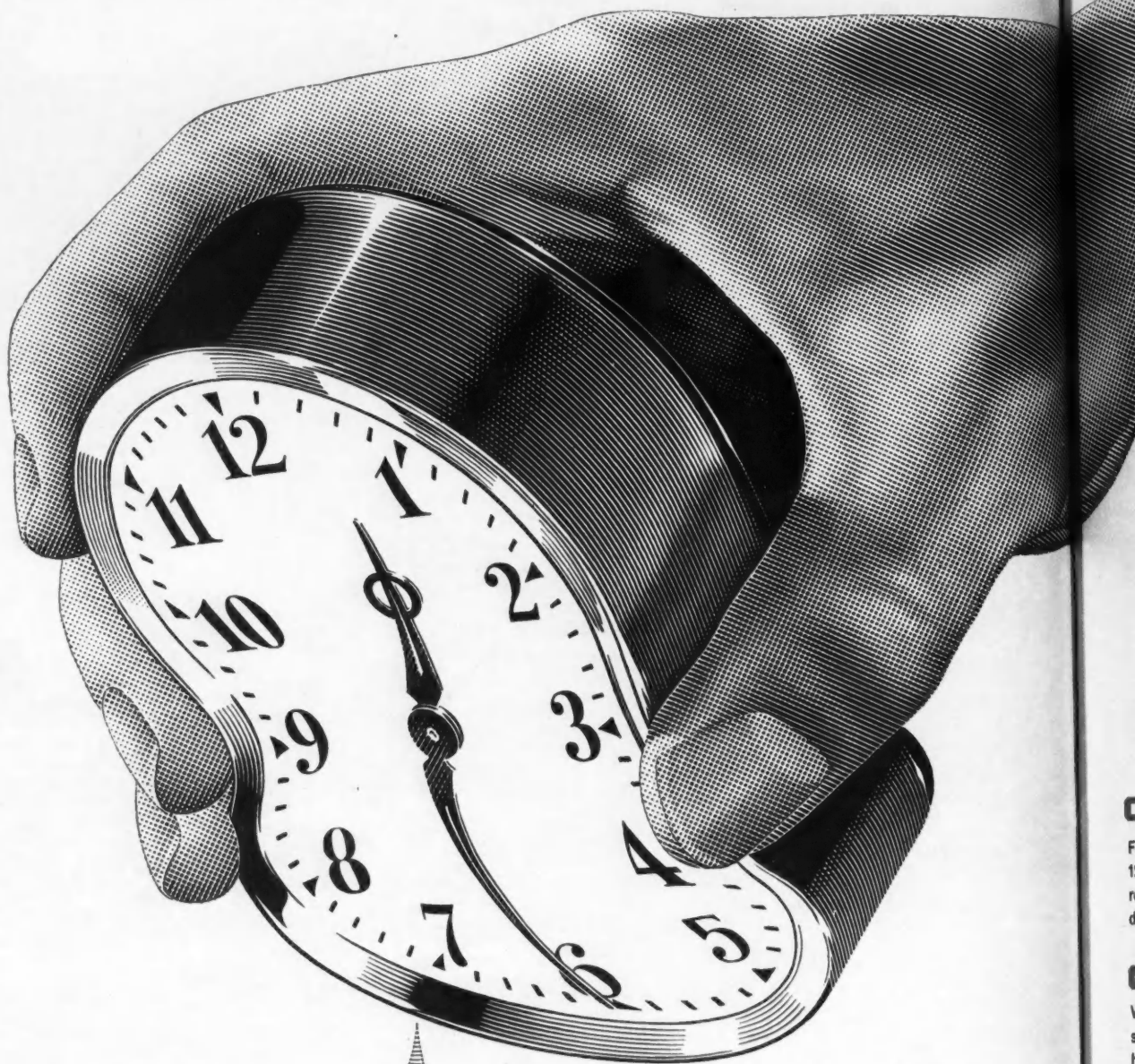
Top picture: lean mix concrete base laid over cement stabilised sub-base. Authority: Ministry of Transport. Agent: W. R. Thomson, M.I.C.E., M.I.Mun.E., County Surveyor and Bridgmaster. Main Contractors: A. Monk and Company Limited (Warrington).

The Cementation Company Limited  
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And India, Pakistan, Middle East, Rhodesia,  
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# Cementation

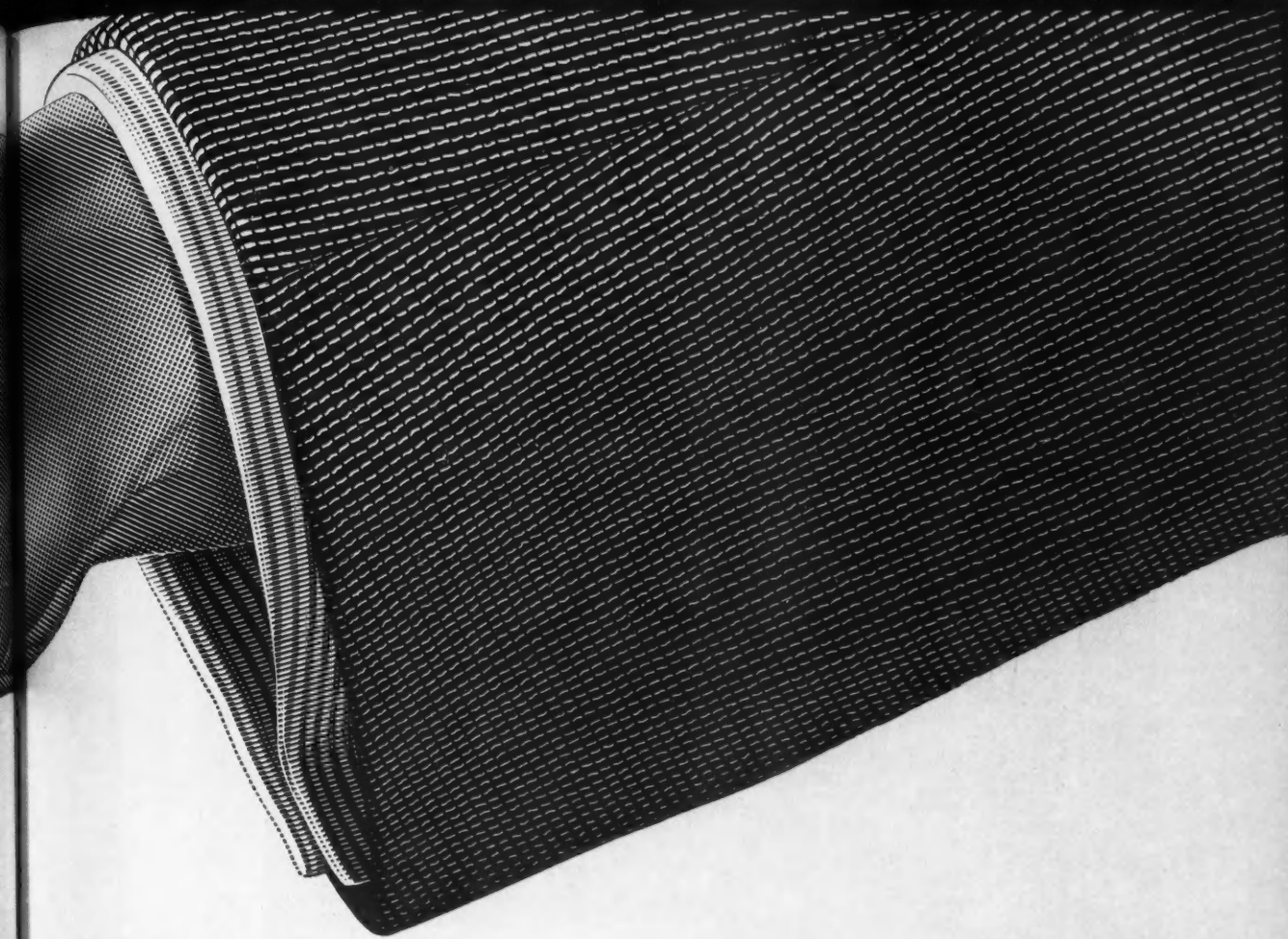
International Civil, mining and specialist engineers





**Squeezing the utmost from each working day...**





## **CASE** equipment

Faster, easier operating cycle for bonus output, unique 12-months-guaranteed Terramatic drive and proved Case reliability are featured in Case crawlers—years ahead in design for years to come.

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With unrivalled Case service, fast on the job equipment stays on the job. Automatic free service at 50, 250 and 500 hours; regular free inspection and advice; service flying squad for emergencies; in a word—service!

...that's the case for **CASE**

## **CASE** experience

Behind every Case tractor is over 100 years of making quality machinery backed by prompt efficient service. Before you move another cube yard write or phone for further details of Case equipment.



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Illustrated above is a 6 ft. lift comprising 2 rows of 36" x 24" panels, with 4" x 10 ft. channel posts and horizontal tube walings. Standard channel posts are supplied in lengths 4 ft. to 10 ft. in 1 ft. multiples and in face widths of 2", 3", 4" and 5". Shown at the right is a Standard Heavy Duty Soldier, 3" or 4" face, supplied in 5 ft. or 10 ft. lengths.

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**DISTURBING NEWS  
FOR CONCRETE**  
*'Agitation amongst  
the aggregates'*

OUR Industrial Correspondent reports considerable unrest in the National Union of Aggregates. The disquiet is caused by the proposed employment of still more CCL-Tremix on sites throughout the country.

**MAY SETTLE DOWN**

A spokesman for the employers said last night that in view of the excellent results obtained with CCL-Tremix they would go forward with their plans without further delay. They believe the aggregates would then settle down far more quickly than was at one time believed possible.

The general view is that when CCL-Tremix is introduced an early strike of the shuttering will take place, particularly when as expected the aggregates amalgamate with the reinforcement. This will result in consolidation to an extent previously unknown.

CCL Tremix Vibrators have a substantially higher efficiency and performance rating and give better compaction and finish to concrete than any other make. The simplicity of design and the high quality of materials used in the manufacture of CCL Tremix Vibrators ensures greater reliability and lower maintenance costs. The 1", 1½", 2" and 2½" Pokers can be interchanged from one drive onto either Electric or Petrol Motors.

You can quite easily prove that the CCL Tremix Vibrator is the best by writing or telephoning us to arrange a 7 day free trial on any site you wish to nominate. For full specifications write for the CCL Tremix Vibrator Manual.

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CCL TREMIX Vibrators may  
be hired from Plant Hire  
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**For the advancement of prestressing techniques**



# GRADE-ability

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**Cuts cycle time  
Eliminates expensive  
site preparation**

Even on the steepest gradients, rugged, mobile Shawnee Poole Rear Dump Haulers maintain high production figures. The Shawnee Poole System saves you up to 50% in total operating costs and increases production.

*Ask for a Job Survey on your site*

*The Shawnee Poole System is manufactured under British and Foreign patents granted and pending.*



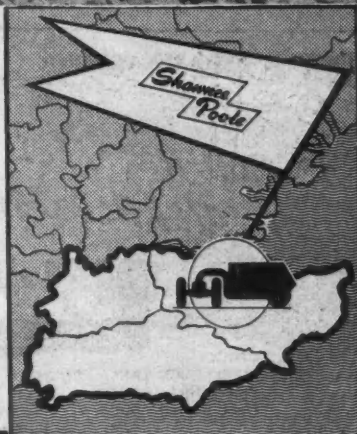
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**UNIT DESIGN**



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Complete with floors

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Sizes to suit columns from 10' to 4' 6"

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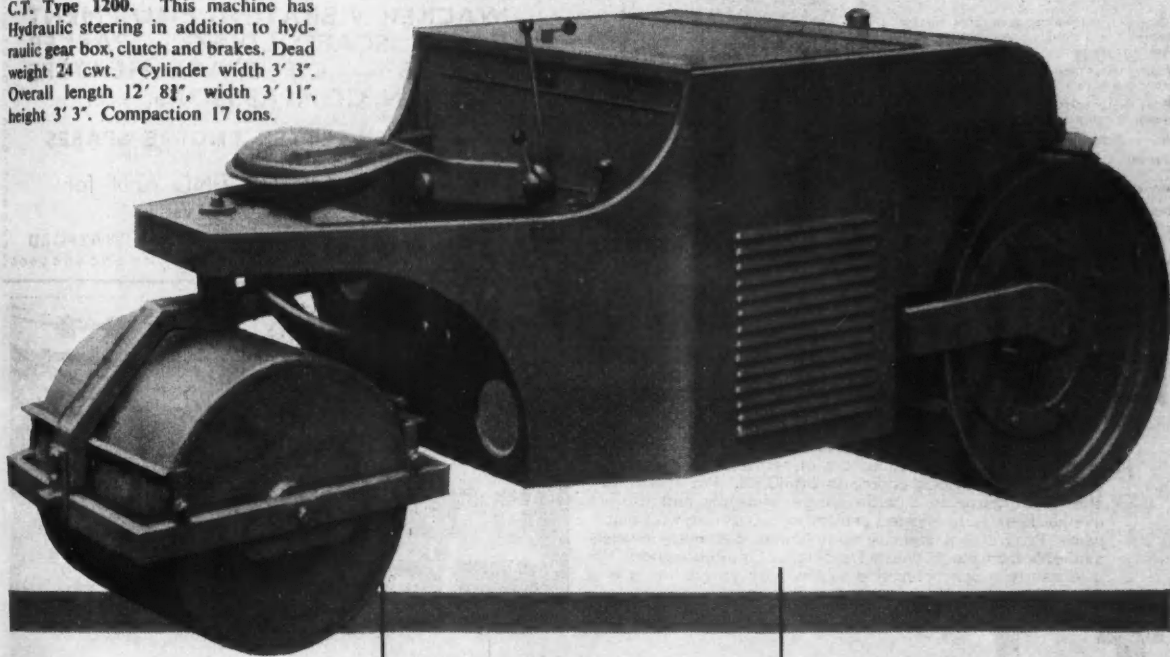
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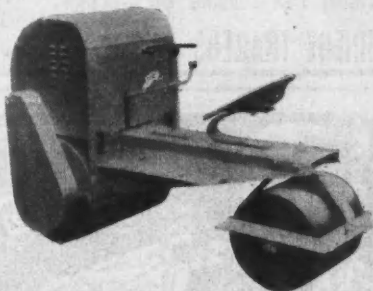
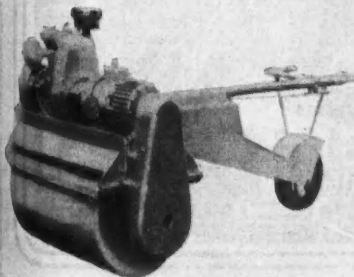
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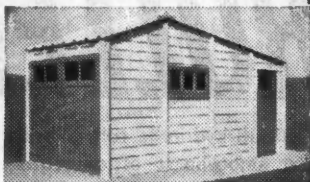
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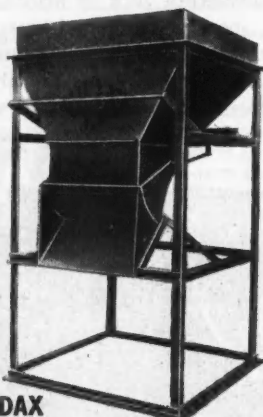
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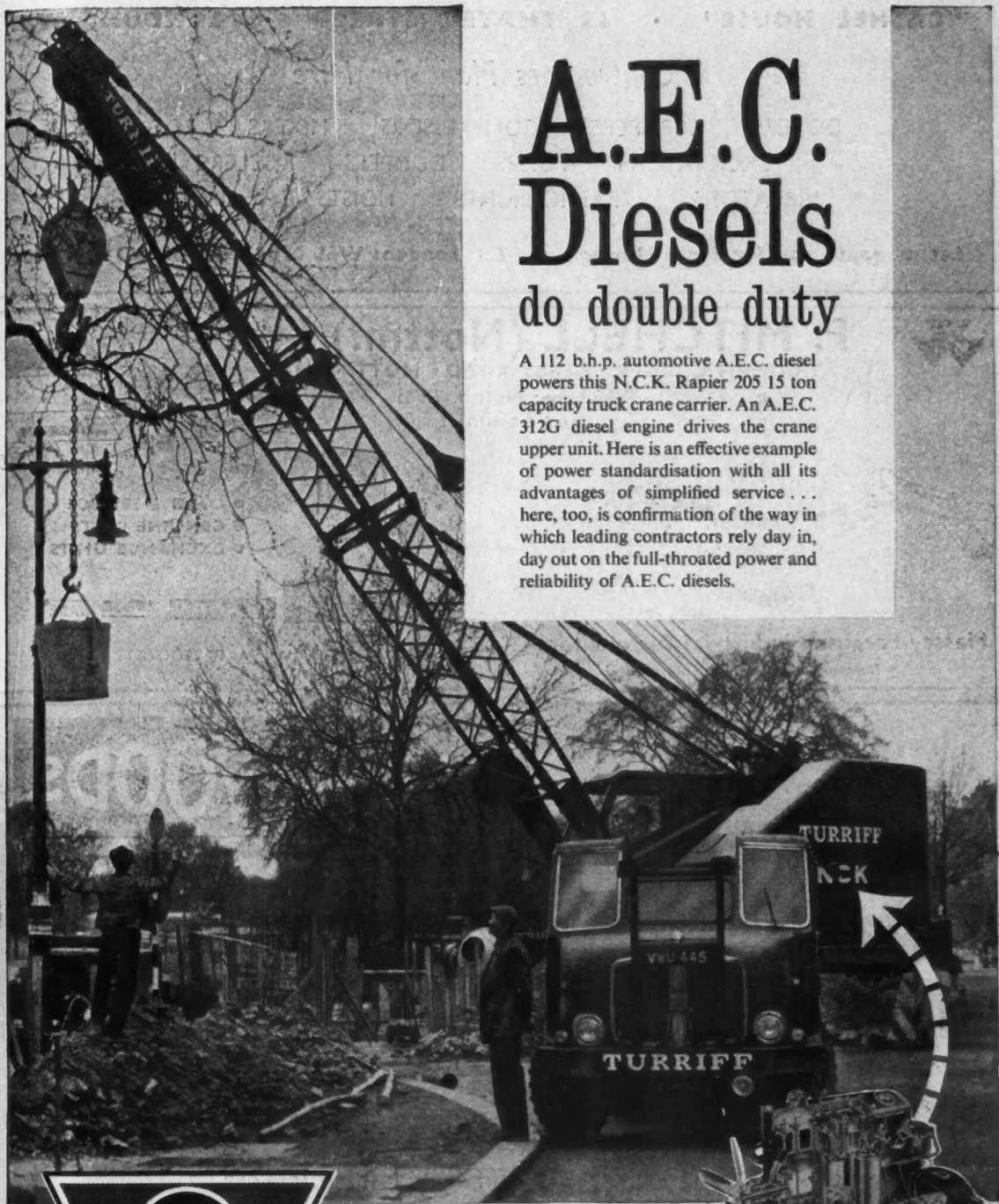
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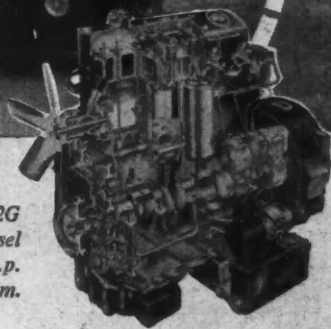


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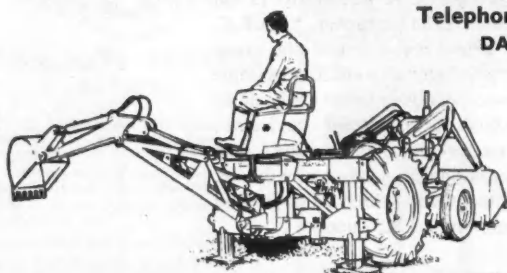
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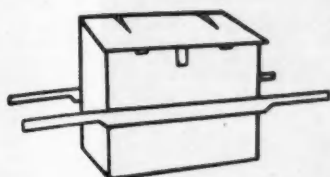
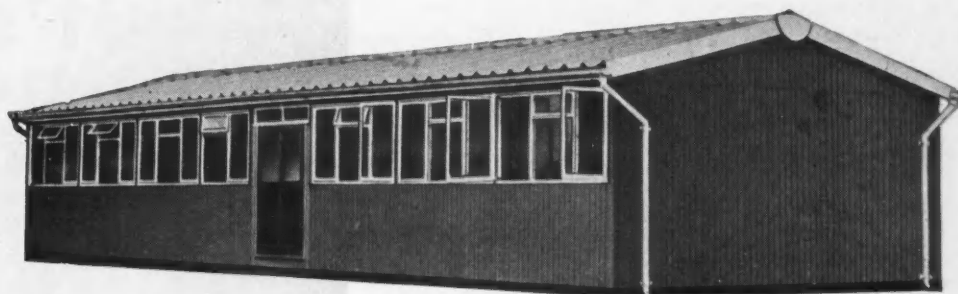
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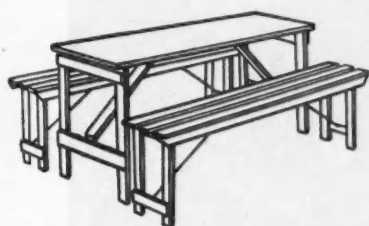
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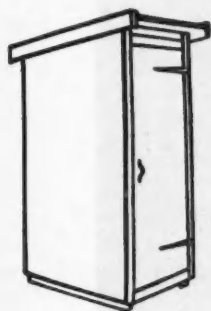


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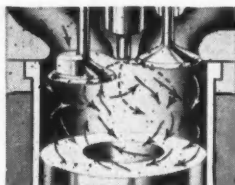
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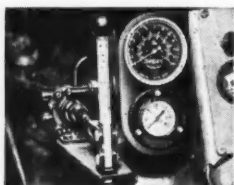


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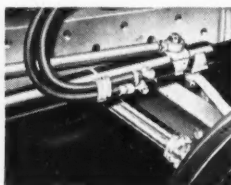
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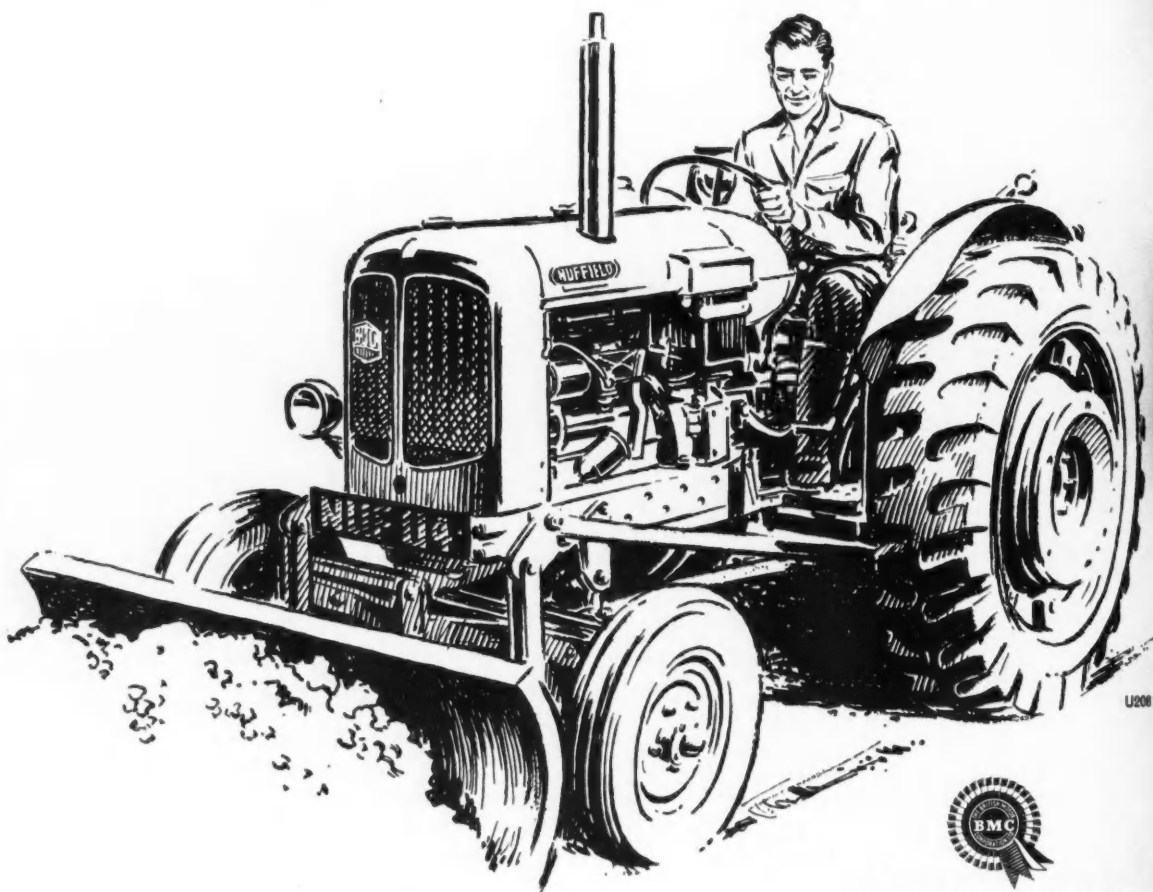
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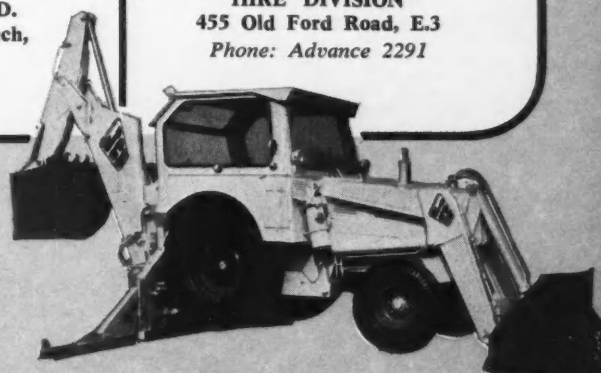
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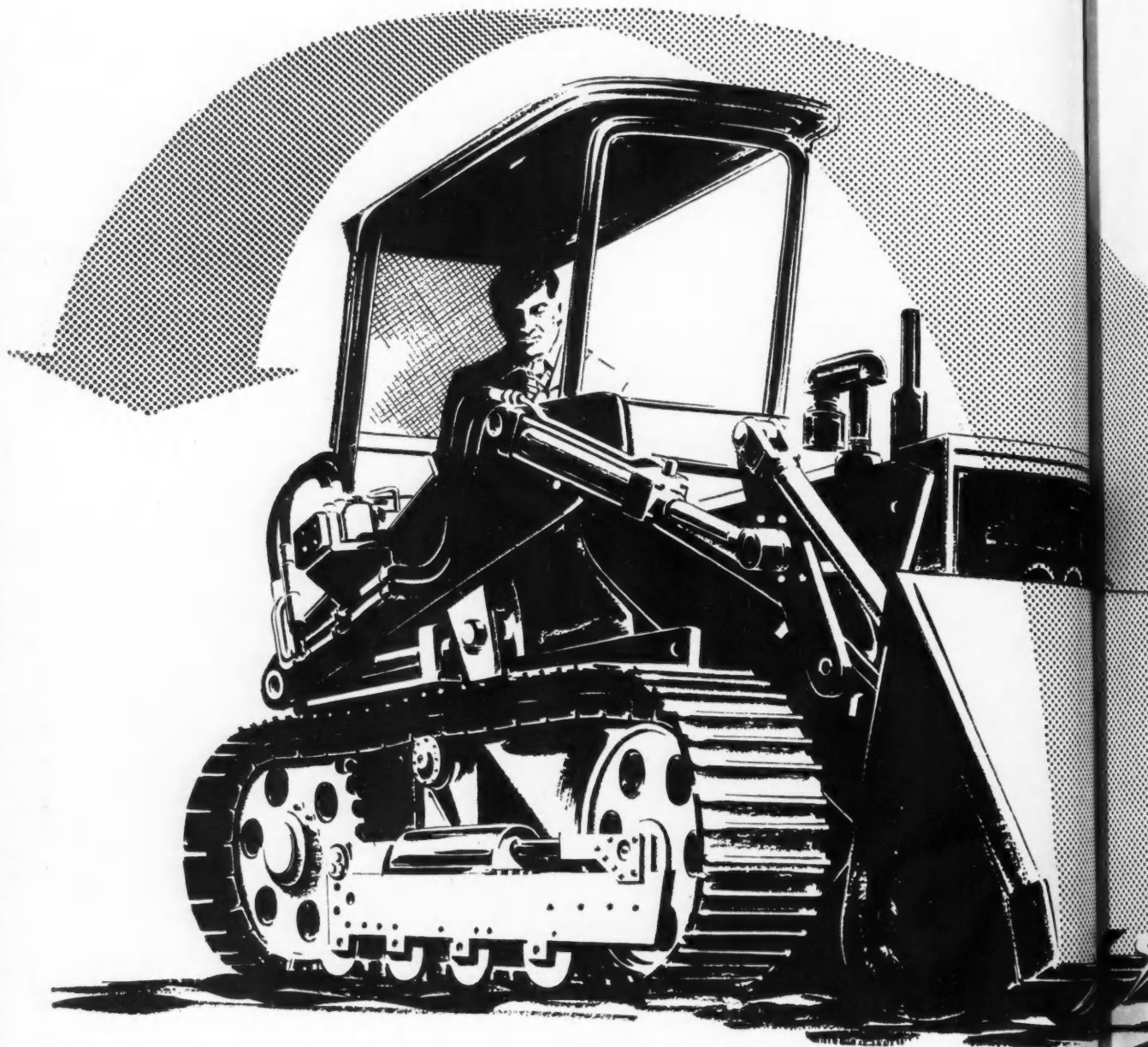
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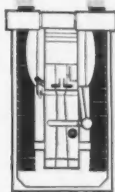
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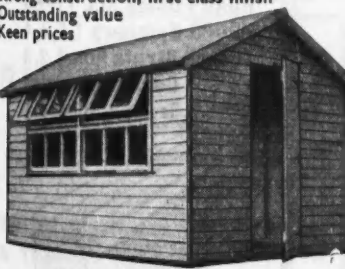
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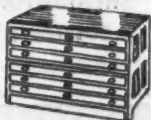
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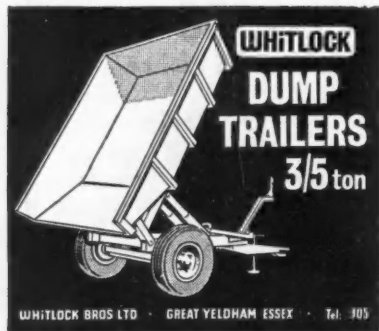
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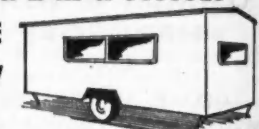
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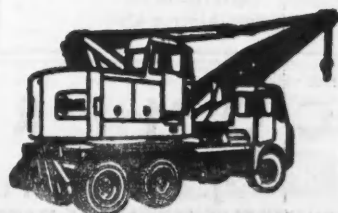
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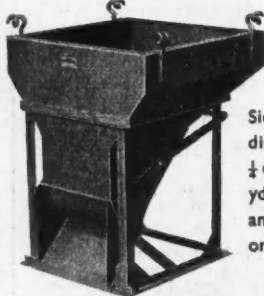
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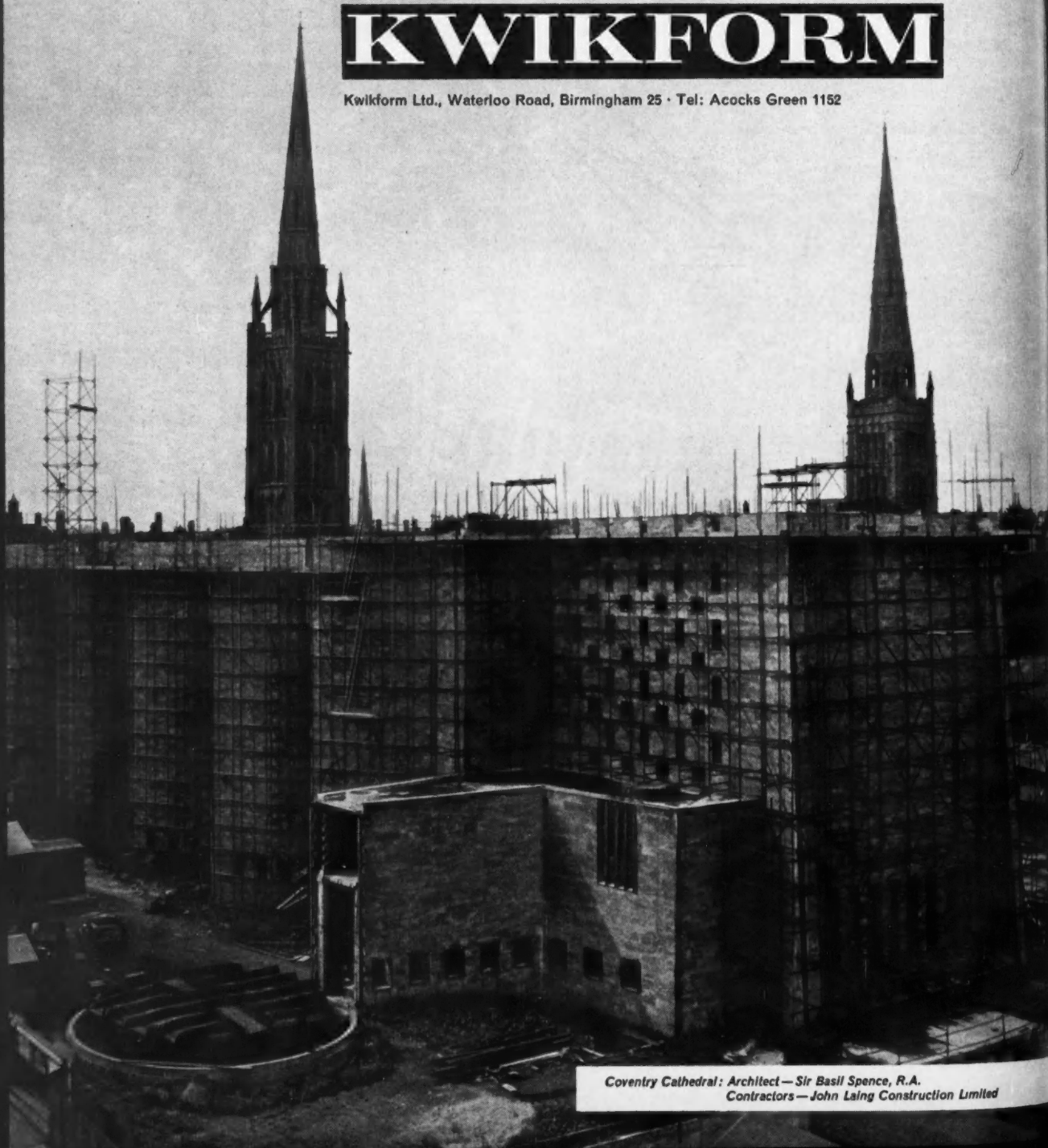
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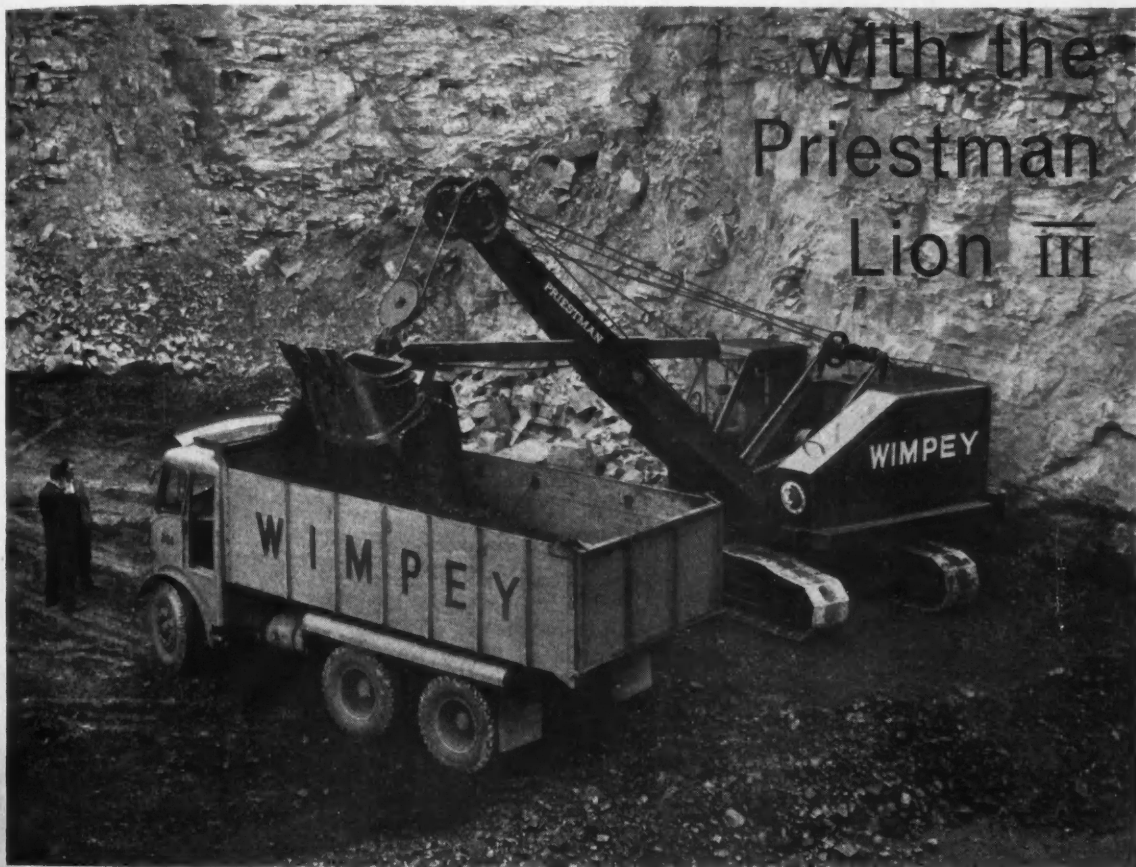


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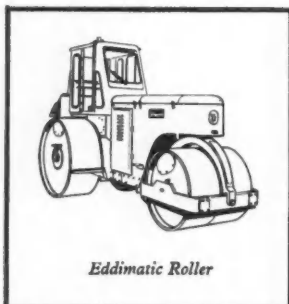


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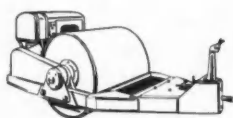




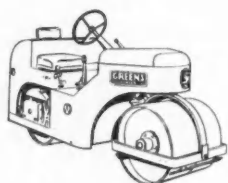
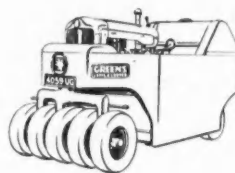
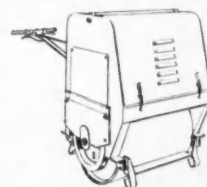
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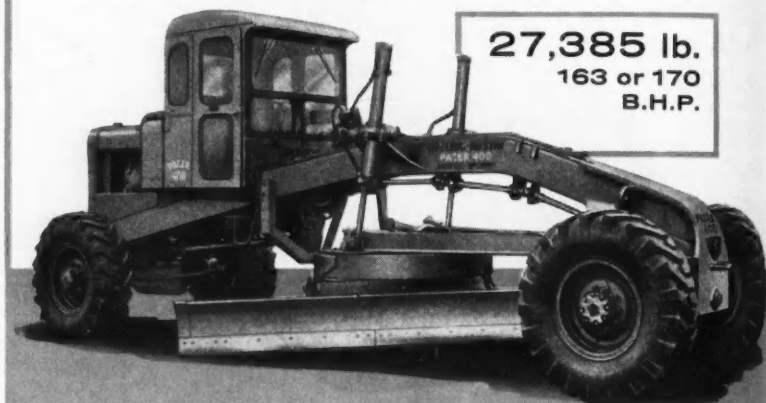


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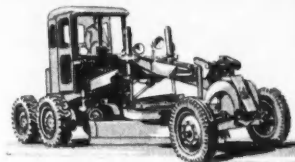
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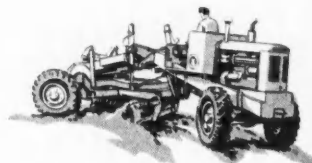
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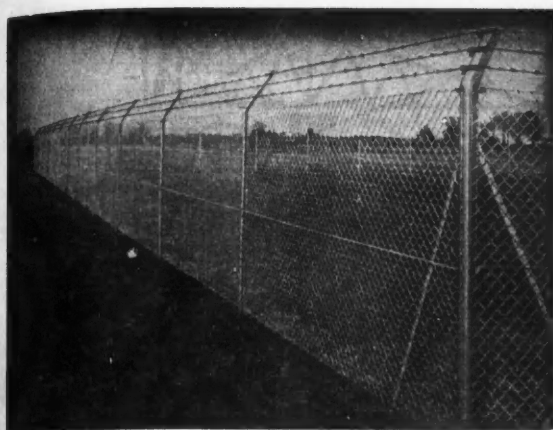
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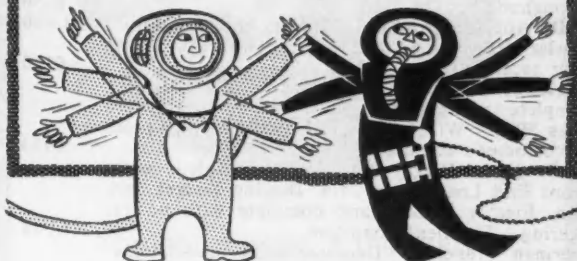
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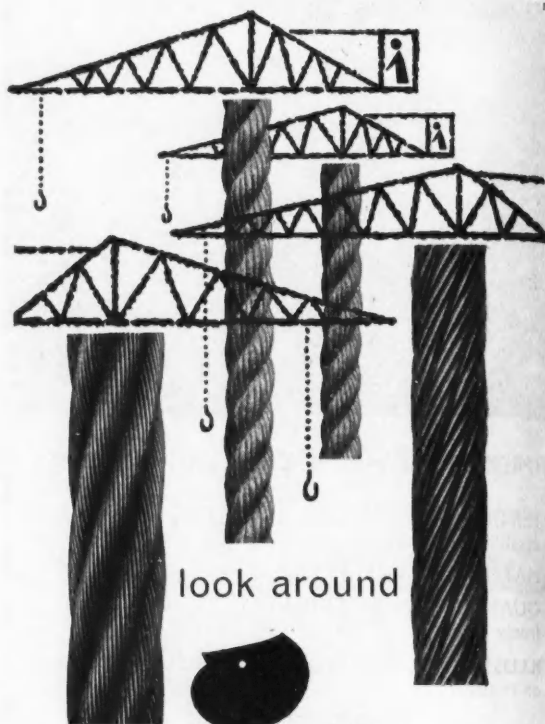
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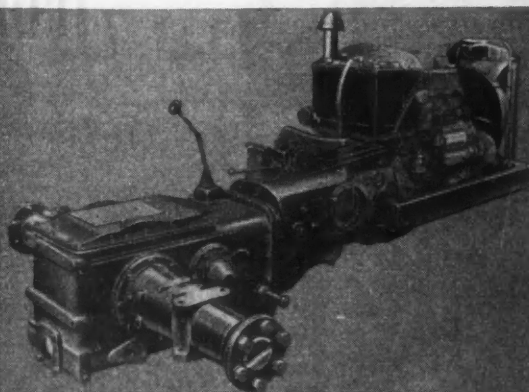
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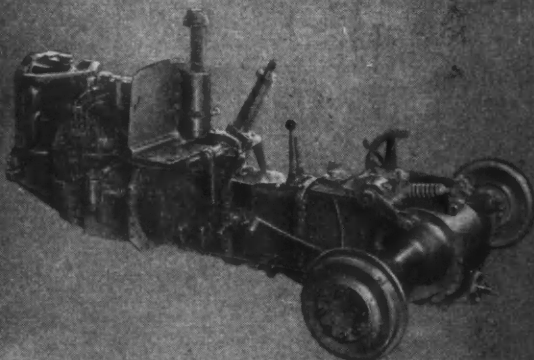
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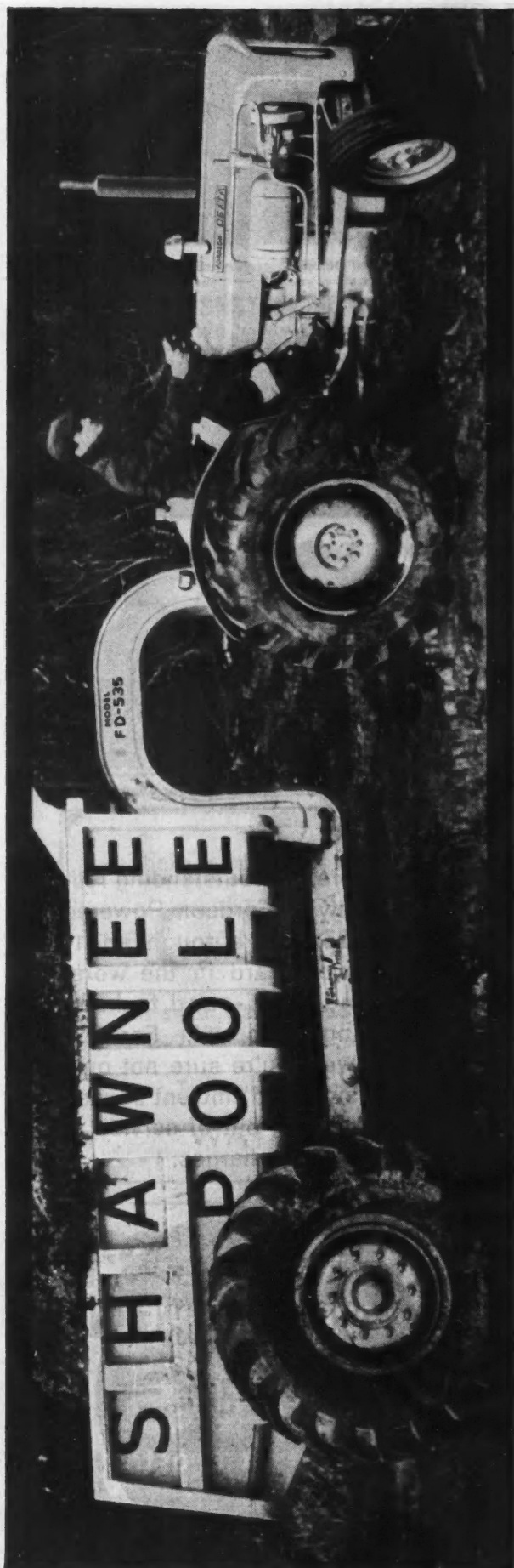
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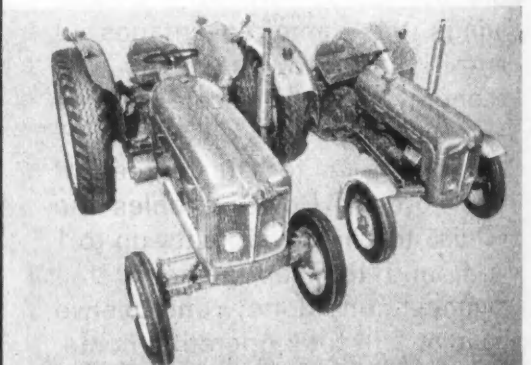
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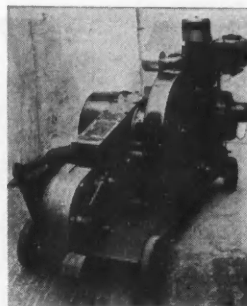
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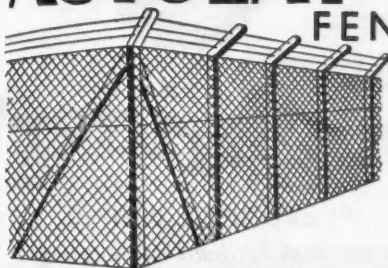
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**15 or 22½ cwt. DIESEL DUMPER**

*The dumper that brilliant engineering  
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You may pay more for the Roughrider than for other dumpers, but nowhere will you get the staying power, the high quality of materials and design that Liner have built into this splendid machine. Proof is in the low maintenance costs (annual average is only £3/10/-) and in the years of staunch service your Roughrider will give you.

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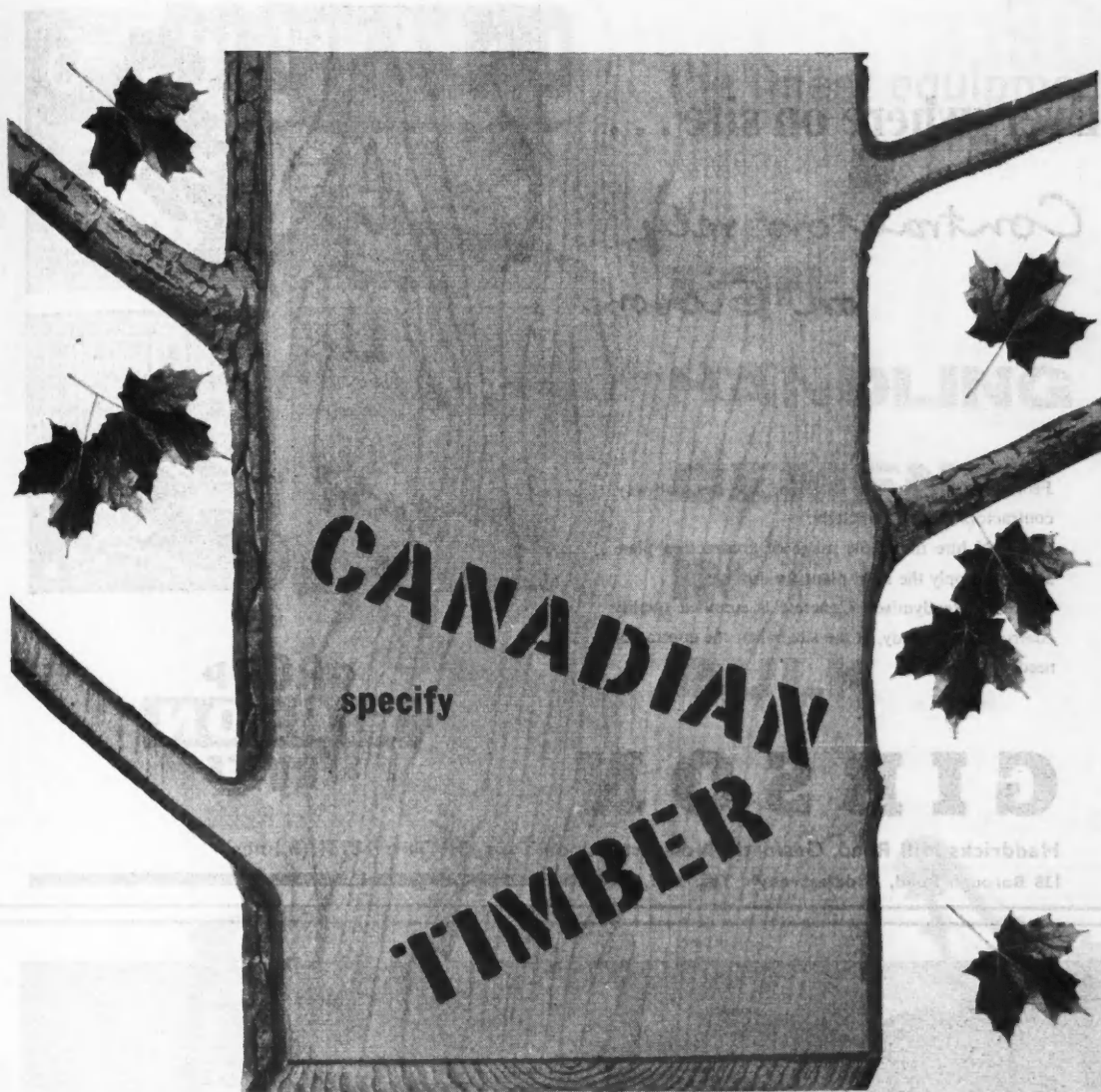
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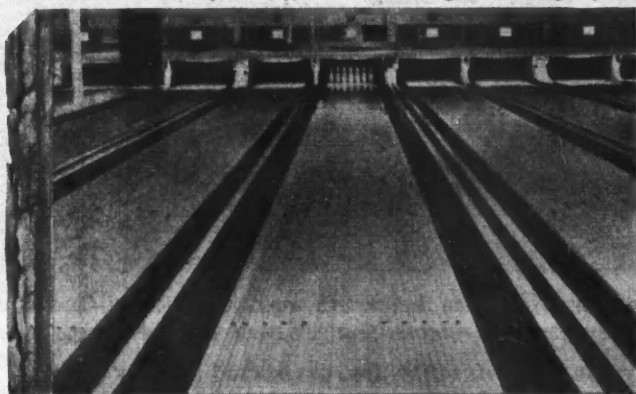
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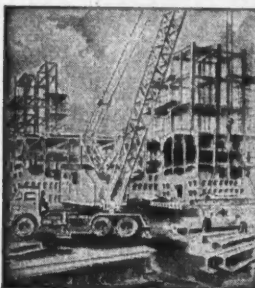
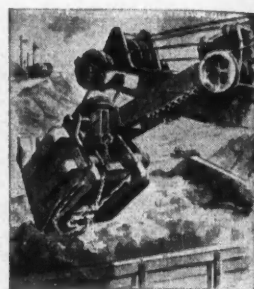
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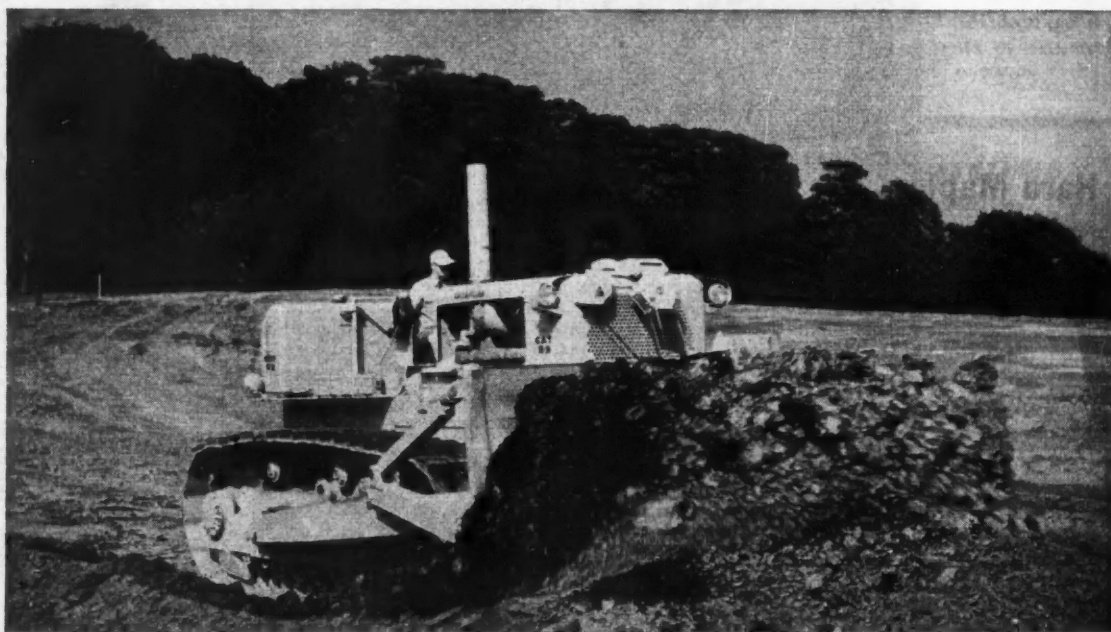


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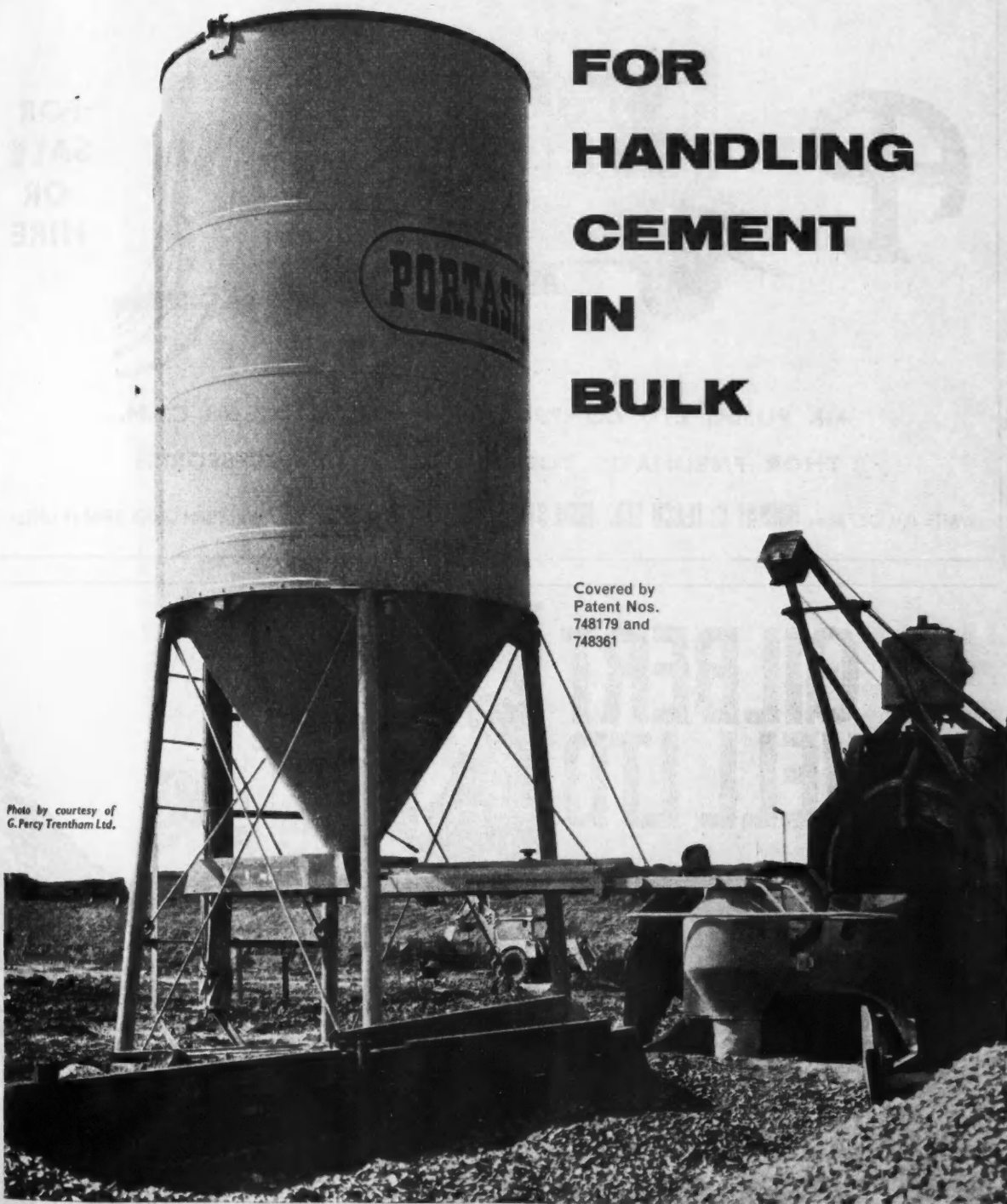
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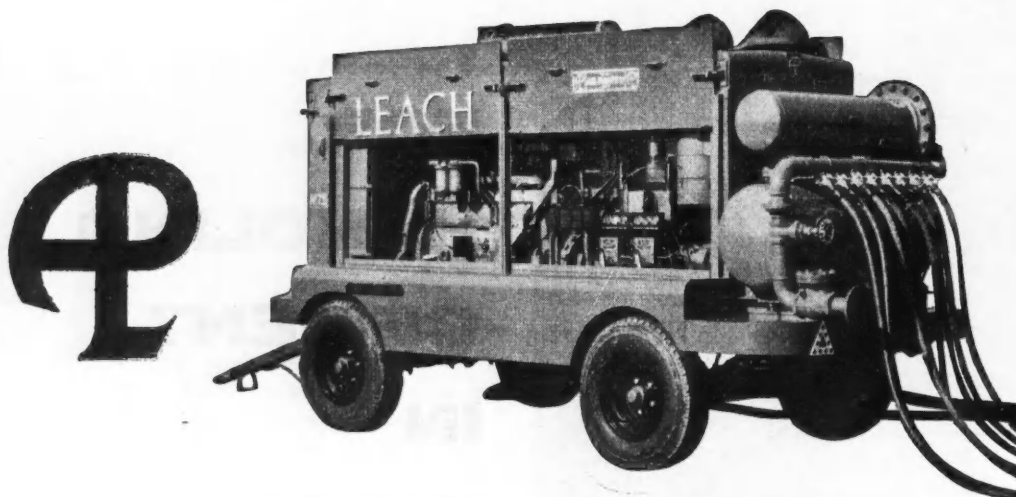
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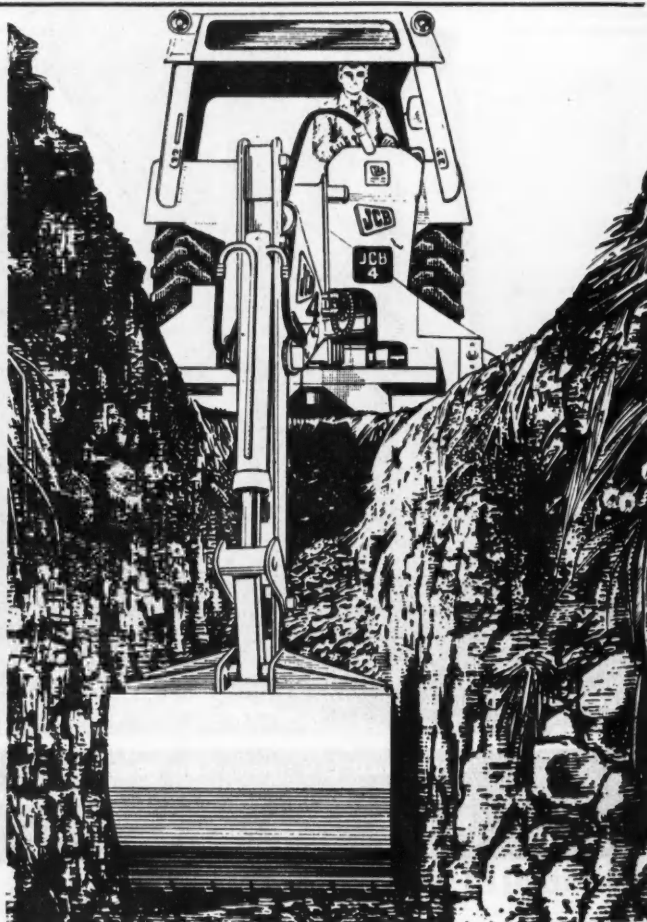
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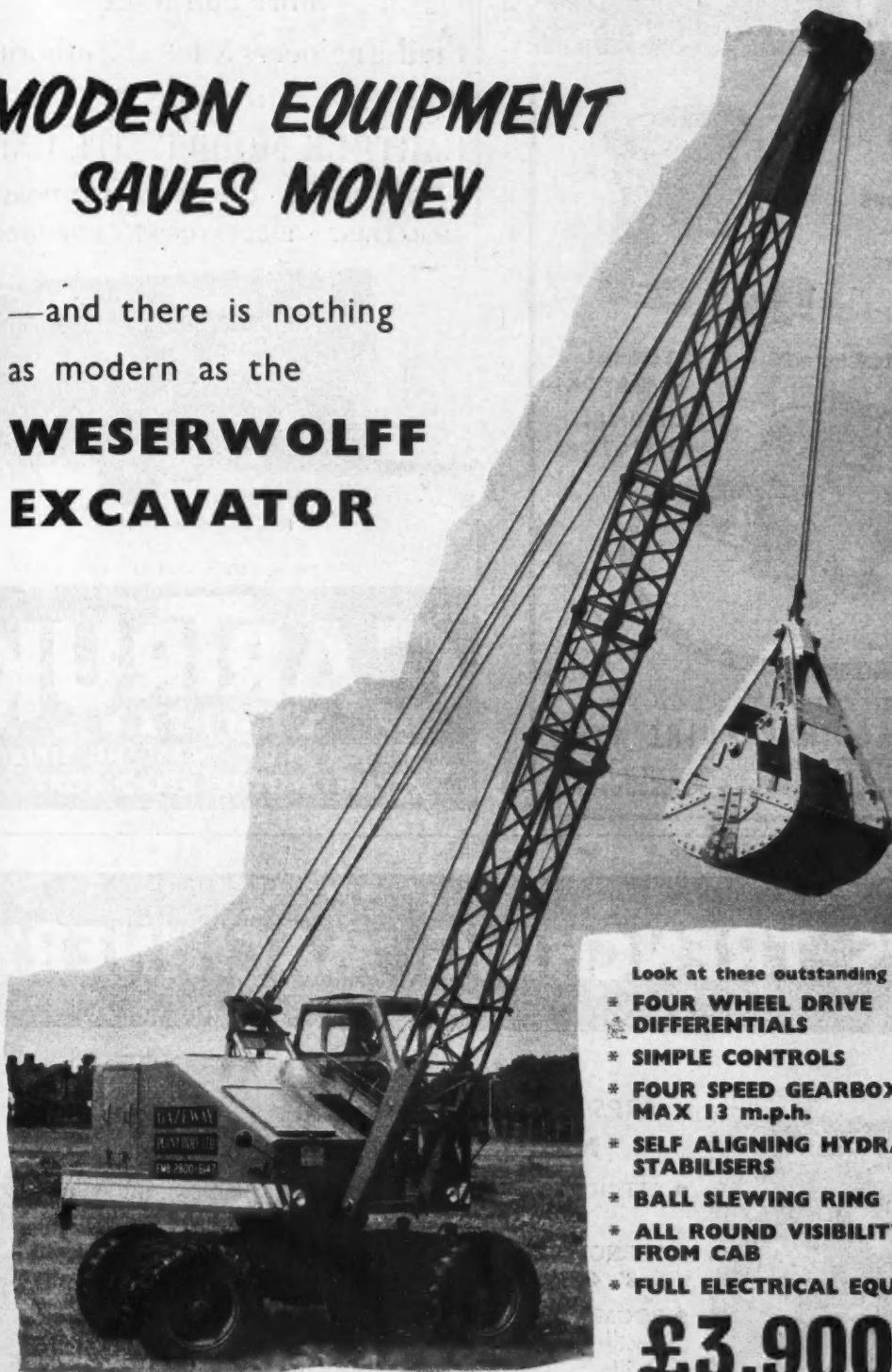
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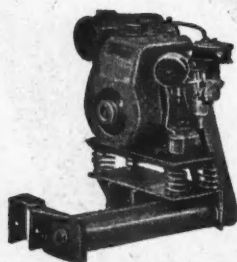
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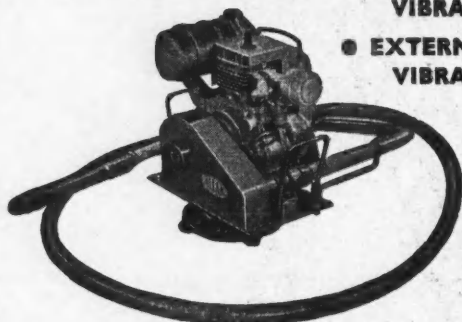
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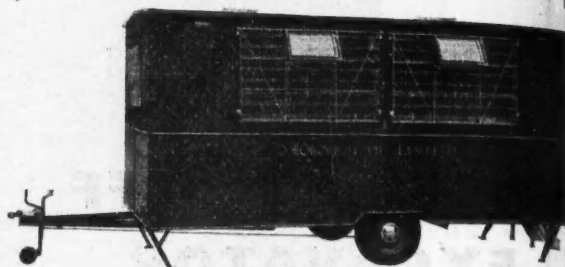
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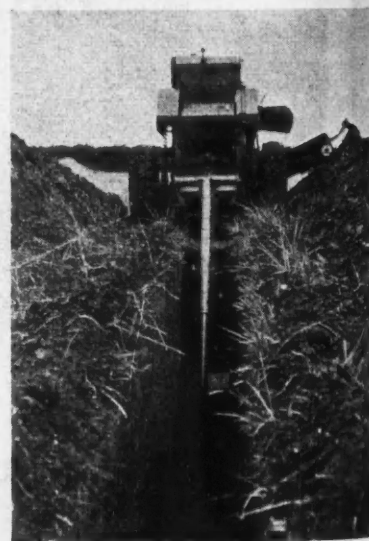
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- BOOM CONTROL: Hydraulic giving down pressure as well as lift.
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The A.R.P.S. L-12 trencher



View showing trenching boom

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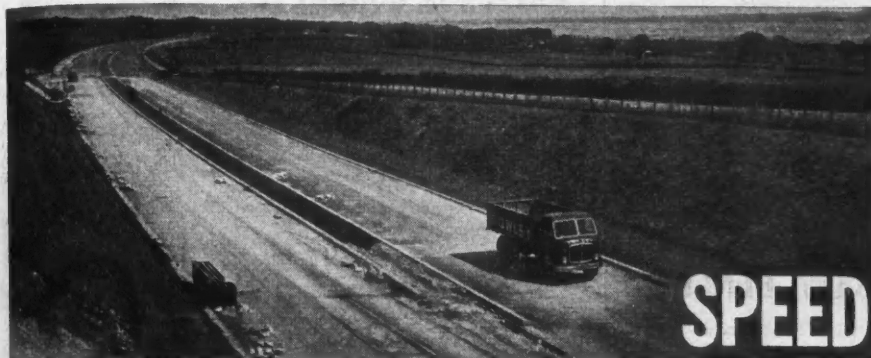
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Tel: YAXLEY 521-522

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not for its own sake but in the interests of national economy, commercial development and industrial efficiency is an essential contractual obligation of the Martin Cowley organisation.



is our guarantee born of experience and the extent of our resources. The Martin Cowley time schedules are geared to the greatest possible progress in the shortest possible time consistent with maximum efficiency.



is the foundation on which our reputation rests. Careful planning at every stage of construction eliminates the element of chance and ensures the certainty of ordered progress.

The above photographs show work on the NORTH FERRIBY By-Pass, Yorks, and are reproduced by kind permission of Mr. W. J. Noel Bryce, B.Sc., M.I.C.E., M.I.Mun.E., County Surveyor, East Riding County Council.

The vast material resources owned by the Martin Cowley Organisation include the latest earth moving equipment and heavy machinery for all types of engineering and construction projects. Road making equipment includes the most modern German A.B.G. concrete compactor-finisher machines.

Contracts at present in hand include:  
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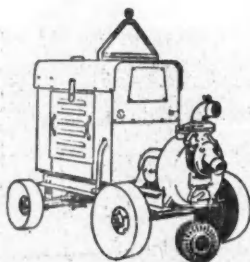
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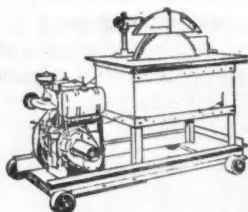
## PUMPS

Self priming Centrifugal Pumps 2" to 6", petrol and diesel driven. Electric self priming Pumps 2" and 3". Diaphragm and Mud Pumps 3" and 4" diesel driven. Hose of all types.



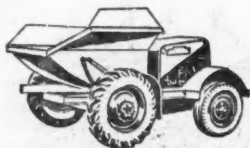
## SAW BENCHES

Portable Saw Benches of our own manufacture. Diesel driven 22", 24" and 33" diameter blades. Petrol 22" diameter. Electric 24" and 33".



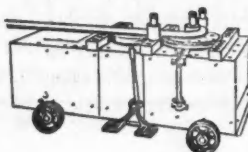
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Johnson 20 cwt. and 30 cwt. Diesel Dumpers. Also 15 cwt. and 30 cwt. machines.



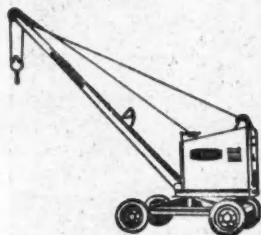
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Jones KL15 diesel driven Cranes. 16 ft. straight channel or 22 ft. swan neck jibs. Neals 15 cwt. petrol portable Cranes, 15 ft.—20 ft. jibs.



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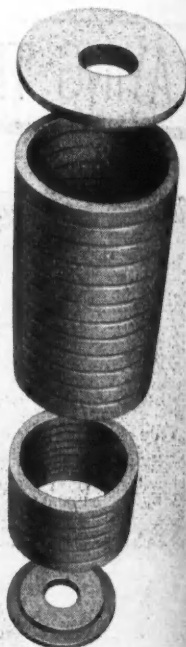
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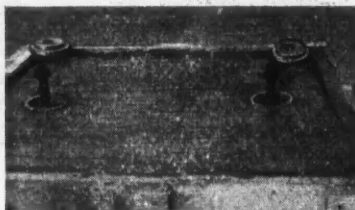
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for a firm of civil engineering and building contractors based in the London area and having, there and in the north industrial midlands, a seven-figure annual turnover of work which it is desired to expand. He will serve under the Chairman for a trial and familiarisation period and it is envisaged that the full Board appointment should be made in mid-1962. Salary £4,000 to £4,500 on initial appointment, according to experience, with car allowance and pension arrangements.

Best aged 40 to 50, applicants should have made their career basically in contracting, in which they must show a proved record of administrative and commercial experience, and they should already have reached at least the position of area manager or equivalent. Responsible tendering and costing experience is essential: professional qualifications will carry weight. Please send brief details in confidence quoting reference YA 4130 to A. Shaw MacLaren.

*In no circumstances will a candidate's identity be disclosed to our client unless he gives permission after a confidential interview at which he will be given full details of the appointment.*

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## CONTRACTS

## BOROUGH OF MIDDLETON.

FOOTPATH RECONSTRUCTION WORK—  
ASPHALT SAND CARPET.

TENDERS are invited for the ABOVE WORKS, consisting of the Laying of approx. 1,050 lin. yds. Precast Concrete Kerb and 2,150 sq. yd. Asphalt (Sand Carpet).

Copies of the Conditions of Contract, Specification, Bill of Quantities and Form of Tender may be obtained on application to the Borough Engineer and Surveyor, Town Hall, Middleton, near Manchester, and should be duly completed and returned in plain sealed envelopes endorsed "Footpath Reconstruction Works," to the undersigned not later than 12 Noon on WEDNESDAY 11th October, 1961.

The Council does not bind itself to accept the lowest or any Tender.

F. JOHNSTON, Town Clerk.

Town Hall,  
Middleton,  
Near Manchester.

15th September, 1961.

## BOROUGH OF BASINGSTOKE.

## SOUTH HAM ESTATE, BASINGSTOKE.

TENDERS are invited for the ERECTION of a total of 196 DWELLINGS, comprising Two-storey Flats, Four-storey Maisonnettes, and Houses, also 147 Garages. The Scheme is situated on one site where main roads and sewers are nearing completion, but included in the Contract will be ancillary Service Roads and Footpath Works.

Forms of Tender, Bills of Quantities and General Conditions of Contract may be obtained from the Borough Architect, ERIC ALMOND, Dipl.-Arch., A.R.I.B.A., Municipal Buildings, Basingstoke, on payment of a deposit of £2 2s. which will be returned on receipt of a bona-fide Tender.

Tenders are to be returned to the undersigned by Noon on TUESDAY, 24th October, 1961, and it is anticipated that work will commence during January, 1962.

The Council do not bind themselves to accept the lowest or any Tender.

R. J. PURVIS, Town Clerk.

## STAINES URBAN DISTRICT COUNCIL.

## IMPROVEMENT WORKS—LITTLETON LANE.

FIXED-PRICE TENDERS are invited for IMPROVEMENT WORKS in the road known as Littleton Lane. The works comprise the Construction of approx. 200 yds. Carriageway—Break out existing concrete, lay 9in. lean-mix with 3½in. asphalt surface 300 sq. yd.; New Kerb—2,905 lin. yd.; Verges—Fill with topsoil 850 cu. yd.; Surface Water Drainage; Gullies; 104 Catchpits 104.

Specification, Bill of Quantities, Form of Tender and Plans may be obtained from the Office of the Engineer and Surveyor, 240 London Road, Staines, upon payment of a deposit of £2 2s. which will be returned upon receipt of a bona-fide Tender not subsequently withdrawn, together with the return of all documents.

Sealed Tenders, in the endorsed envelope provided, and free from any mark indicating the name of the sender, shall be returned to the undersigned not later than 5 p.m. on THURSDAY, 5th October, 1961.

The Council does not bind itself to accept the lowest or any Tender.

F. ENTWISTLE, Clerk of the Council.

## BASILDON URBAN DISTRICT COUNCIL.

## TYE COMMON SEWERAGE SCHEME, BILLERICAY.

TENDERS will shortly be invited for the ABOVE CONTRACT, comprising the Construction of approx. two miles of Sewers and Rising Main, a Pumping Station, and certain ancillary works.

Contractors should apply for documents to the ENGINEER AND SURVEYOR, Basildon, Essex, by 6th OCTOBER, with £2 2s. deposit (refundable), giving names of other authorities for whom they have executed similar works.

## RICKMANSWORTH URBAN DISTRICT COUNCIL.

## EASTBURY FARM ESTATE—SURFACE WATER DRAINAGE.

TENDERS are invited for the CONSTRUCTION of 1,100 yd. of SURFACE WATER SEWERS in Concrete Tubes and sizes ranging from 30in.-6in. dia., for the Construction of Mainholes and the Connection of House Drains and Gullies. The works are to be carried out in roads on the Eastbury Farm Estate, Northwood.

Conditions of Contract, Specification, Bills of Quantities and Form of Tender may be obtained from the Engineer and Surveyor on payment of Two Guineas deposit which will be returned on receipt of a bona-fide Tender. The Drawings may be inspected by appointment at the Office of the Engineer and Surveyor.

Tenders, in a plain sealed envelope endorsed "Tender for Eastbury Farm Estate—Surface Water Drainage," are to be returned to the undersigned not later than 12 Noon on MONDAY, 9th October, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

C. G. RANSOME WILLIAMS, Clerk of the Council.

## HOLLINGBOURN RURAL DISTRICT COUNCIL.

## WEAVING STREET SEWERAGE.

The above-named Council invite TENDERS for the EXECUTION OF WORKS OF SEWERAGE, comprised in the Furnishing and Laying of about 2,500 yd. of 6in. Stoneware Pipe Sewers, Manholes, Ventilators, etc., and other appurtenant works.

Contractors, who must have had considerable experience in similar work, and who are desirous of tendering, should send their names and addresses to the Council's Consulting Engineers, MESSRS. D. BALFOUR AND SONS, 131 Victoria Street, Westminster, S.W.1, accompanied by a cheque deposit of Five Pounds, made payable to the Hollingbourn Rural District Council, not later than MONDAY, 9th October, 1961, after which particulars will be forwarded. The deposit will be returned on receipt of a bona-fide Tender and on return of all printed forms and plans after the Contract is let.

Tenders, in plain sealed envelope endorsed "Tenders for Main Sewerage," must be sent to the undersigned by a date to be given by the Engineers. The Council do not bind themselves to accept the lowest or any Tender.

JOHN J. McGEARY, Clerk of the Council.

Council Offices,  
73 College Road,  
Maldstone, Kent.

## CONTRACTS

## DORSET COUNTY COUNCIL.

LONGHAM BRIDGE—  
CONSTRUCTION OF CANTILEVERED FOOTWAY.

TENDERS are invited for the CONSTRUCTION of a FOOTWAY Cantilevered Out from the Main Structure of LONGHAM BRIDGE, on the POOLE/RINGWOOD ROAD (A.348), at the Bournemouth Borough Boundary.

The new Reinforced Concrete Footbridge will be 270ft. in length, made up of 12 spans carried on cantilevers.

Documents, returnable by the 20th OCTOBER, 1961, may be obtained from the County Surveyor, County Hall, Dorchester, Dorset.

A. C. TEMPLEMAN,

Clerk of the County Council.

County Hall,  
Dorchester.

## COUNTY BOROUGH OF HUDDERSFIELD.

## MOOR LANE RELIEF SEWER.

TENDERS are invited for the CONSTRUCTION of approx. 1,500 lin. yd. of CONCRETE and S.G.W. SEWERS, varying in diameter from 12in. to 42in., together with R.C. Twin Box Culvert, R.C. Storm Overflow and Stilling Bay Chambers, Concrete Manholes, and other ancillary works.

Plans and Conditions may be seen, and Forms of Tender, Specification and Bills of Quantities obtained on application to A. L. PERCY, M.I.C.E., Borough Engineer and Surveyor, High Street Buildings, Huddersfield.

Deposit £2 2s. refunded on receipt of a bona-fide Tender not subsequently withdrawn, and the return of all the documents.

Sealed Tenders, in the envelope provided, are to be delivered to the undersigned not later than 10 a.m. on MONDAY, 16th October, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender.

HARRY BANN,

Town Clerk.

Town Hall,  
Huddersfield.

September, 1961.

## BOROUGH OF TORQUAY.

DISMANTLING OF STEEL-FRAMED TIMBER STORES  
AND DEMOLITION OF BUILDINGS, OFFICES, ETC.—  
TEMPERANCE STREET, TORQUAY.

TENDERS are invited from experienced contractors for the DISMANTLING OF STEEL-FRAMED TIMBER STORES, together with the Demolition of Ancillary Buildings.

Copies of the Conditions of Contract, Specification, Plan, and Form of Tender may be obtained on application to the Borough Engineer, Town Hall, Torquay.

Tenders, which must be submitted in the manner indicated in the Contract documents, must be delivered to the Town Clerk not later than Noon on FRIDAY, 13th October, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender.

T. ELVED WILLIAMS,

Town Clerk.

Town Hall,  
Torquay.

## BOROUGH OF PORT TALBOT.

## PROPOSED FILLING OF BAGLAN MOORS—PART 1.

The CORPORATION invites TENDERS for the FOLLOWING WORK to be carried out by Contract:

(a) 35,000 cu. yd. of Topsoil Excavation and Stockpiling.

(b) 330,000 tons of Copper Slag Excavated, Hauled and Spread; and ancillary works.

Conditions of Contract, Specification and Bill of Quantities may be obtained from the Borough Engineer, G. V. GRIFFITHS, A.M.I.C.E., Municipal Buildings, Port Talbot, on payment of a deposit of £2 2s. which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Completed Tenders to be returned to the undersigned not later than Noon, 16th OCTOBER, 1961, endorsed "Proposed Filling of Baglan Moors—Part 1."

The Corporation does not bind itself to accept the lowest or any Tender.

W. KING DAVIES,

Town Clerk.

Municipal Buildings,  
Port Talbot.

14th September, 1961.

## CITY OF STOKE-ON-TRENT.

HOUSING REDEVELOPMENT STREET WORKS,  
BURSLEM.

(A) PORT VALE STREET AND REID STREET AREA.  
(B) SAINT STREET AND GLOBE STREET AREA.

THE CORPORATION invite TENDERS from civil engineering contractors for CARRYING OUT WORKS on the ABOVE SCHEMES, including 1,500 sq. yd. of new Carriageway Surfacing and Foundation, 1,100 sq. yd. of new Footway, together with Sewers, and other incidental works.

Specification, Bill of Quantities and Form of Tender may be obtained, and Drawings inspected, on application to the City Engineer and Surveyor, Town Hall, Stoke-on-Trent, on payment of a deposit of £2 which will be returned on receipt of a bona-fide Tender.

Tenders and priced Bill of Quantities (in the separate envelopes provided) must be delivered to the undersigned by 12 Noon on WEDNESDAY, 4th October, 1961.

HARRY TAYLOR,

Town Clerk.

Town Hall,  
Stoke-on-Trent.

## NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD.

ERECTION OF OUT-PATIENT, CASUALTY AND  
PATHOLOGICAL DEPARTMENTS AT THE BEDFORD  
GENERAL HOSPITAL, SOUTH WING,  
KEMPSTON ROAD, BEDFORD.

Building contractors wishing to TENDER for the ABOVE WORK are invited to submit their names for inclusion on a selected list of tenderers.

The work comprises a Two-storey Block in Reinforced Concrete, the estimated cost of the project being approx. £214,000.

The Architect responsible to the Board for this work is MORRIS DE METZ, F.R.I.B.A., 29 Gloucester Place, Portman Square, London, W.1, and the work will be carried out under his supervision.

It is anticipated that invitations to tender will be issued in November, 1961, and that work will commence in January, 1962.

Applications, together with details of works carried out, and their value, should reach the REGIONAL ARCHITECT, North West Metropolitan Regional Hospital Board, 40 Eastbourne Terrace, London, W.2, not later than MONDAY, 30th October, 1961.

## CONTRACTS

## BOROUGH OF HESTON &amp; ISLEWORTH.

STORES AND WORKSHOP—  
LAMPTON PARK NURSERY, HOUNSLOW.

TENDERS are invited for the ERECTION OF MESS ROOM, STORES AND WORKSHOP at the ABOVE SITE.

Firms wishing to tender should make application to the Borough Engineer and Surveyor, 88 Lampton Road, Hounslow, with a deposit of £2 2s. (Two Guineas) which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

The Form of Tender and Bills of Quantities will be forwarded on or about 10th October, 1961.

Tenders must be sealed in the envelope provided, and received by the undersigned by Noon on 31st OCTOBER, 1961.

D. MATHIESON,

Town Clerk.

Town Hall,  
Hounslow, Middx.

## BOROUGH OF HESTON &amp; ISLEWORTH.

## PUBLIC CONVENIENCE, BROADWAY, HOUNSLOW.

TENDERS are invited for the ERECTION OF A PUBLIC CONVENIENCE at the ABOVE SITE. Firms wishing to tender should apply to the Borough Engineer and Surveyor, 88 Lampton Road, Hounslow.

Tenders must be sealed in the envelope provided, and received by me by 10 a.m. on 16th OCTOBER, 1961. The Council do not bind themselves to accept any Tender.

D. MATHIESON,

Town Clerk.

Town Hall,  
Hounslow, Middlesex.

## BOROUGH OF HESTON &amp; ISLEWORTH.

INSTALLATION OF WASH-HAND BASINS IN  
75 HOUSES ON TWO COUNCIL ESTATES.

TENDERS are invited, on Tender Forms to be obtained from the Housing Officer and Manager, Housing Department, 88 Lampton Road, Hounslow.

Tenders, in sealed envelopes not indicating the tenderer, endorsed "Installation of Wash-hand Basins in 75 Houses," must reach me by 10 a.m., 23rd OCTOBER, 1961.

The Council is not bound to accept any Tender.

D. MATHIESON,

Town Clerk.

Town Hall,  
Hounslow, Middx.

## THE URBAN DISTRICT COUNCIL OF

## HAVANT AND WATERLOO.

The above Council invite TENDERS for the MAKING-UP OF PART OF SCRATCHFACE LANE, approx. 560 yds. in length, consisting of the Excavation and Formation of approx. 3,600 sq. yd. of Reinforced Concrete Carriageway, together with 1,225 lin. yd. of Concrete Kerb, 1,350 sq. yd. of Asphalt Paths, 1,650 sq. yd. of Grass Verges, and the Provision of 550 lin. yd. of 12in. dia. Surface Water Sewer, complete with Precast Concrete Manholes, Gullies, Connections, and ancillary works.

Conditions of Contract and Drawings may be inspected at the Office of the Engineer and Surveyor, Park Road North, Havant, from whom a Specification, Bill of Quantities and Form of Tender may be obtained.

No Tender will be received except in a plain sealed envelope which must bear the word "Tender," followed by the subject which it is referred to, but shall not bear any name or mark indicating the sender.

Tenders must be delivered to the CLERK OF THE COUNCIL, Town Hall, Havant, not later than 12 Noon on 8th NOVEMBER, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

## HORNCURCH URBAN DISTRICT COUNCIL.

REPAIRS TO ACCOMMODATION BRIDGE OVER  
RAILWAY BETWEEN BURNWAY AND  
WOODHALL CRESCENT.

TENDERS are invited for the ABOVE-MENTIONED WORKS, which comprise the FOLLOWING:

- (1) The Repointing of Brick joints over most of the Surface Area of the Bridge;
- (2) Cutting Gullies, Defective Bricks and Copings, and Replacing with New;
- (3) Other Remedial Works to Rainwater Downpipes, etc.

The Specification and Schedule of Works may be obtained from the Engineer and Surveyor, Council Offices, Billet Lane, Horncurch, Essex, upon the deposit of Two Guineas which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

The documents must be returned to the undersigned not later than FRIDAY, 13th October, 1961, sealed in the envelope provided, which shall bear no indication of the person(s) tendering.

P. L. COX,

Clerk of the Council.

Town Hall,  
Hornchurch, Essex.

## NEWCASTLE-UNDER-LYME RURAL DISTRICT COUNCIL.

## ASHLEY SEWERAGE AND SEWAGE DISPOSAL.

## CONTRACT NO. 2.

TENDERS are invited for the CONSTRUCTION of about 4,100 lin. yd. of GLAZED STONEWARE and SPUN-IRON PIPE SEWERS, 6in. and 9in. in dia., with Manholes, and a Sewage Disposal Works comprising Screening and Detritus Tanks, Storm Overflow Chamber, Sedimentation Tanks, Dosing Chamber and Bacteria Beds, Humus Tanks, Pumping Station, Slope Lagoons, Pipework, Chambers, Road, Paths, and incidental works, in accordance with the Drawings, Specification and Bill of Quantities prepared by the Engineers, A. S. WATERS AND PARTNERS, 25 Temple Row, Birmingham, 2.

The Drawings may be seen at, and the General Conditions of Contract, Specification, Bills of Quantities and Form of Tender may be obtained from the Offices of the undersigned, or of the Engineers, on or after the 2nd OCTOBER, 1961, on payment of a deposit of Five Guineas which will be refunded, upon receipt of a bona-fide Tender and the return of all documents.

Sealed Tenders, on the form supplied and in the endorsed envelope provided, are to be delivered to me at the address below not later than Noon on 3rd NOVEMBER, 1961.

The Council do not undertake to accept the lowest or any Tender.

F. W. RAMM,

Clerk of the Newcastle-under-Lyme Rural District Council.

Council Offices,  
Sidmouth Avenue,  
The Brampton,  
Newcastle-under-Lyme,  
Staffs.

15th September, 1961.

## CONTRACTS

**BOROUGH OF HARROW.**  
ERECTION OF PUBLIC CONVENIENCE.

TENDERS are invited for the ERECTION of a PUBLIC CONVENIENCE IN WOODRIDINGS CLOSE, off Uxbridge Road, Hatch End.

Plans and Conditions of Contract may be inspected at the Office of the Borough Engineer and Surveyor, Council Offices, 48 Uxbridge Road, Stanmore, Middlesex, to whom application for a copy of the Bill of Quantities and Form of Tender should be made, accompanied by a crossed cheque for Two Pounds made payable to Harrow Corporation, the amount being returnable where a bona-fide Tender reaches me within the prescribed time, together with the priced and sealed Bill of Quantities, which will be opened in the case of the lowest Tenders only, are to be enclosed in plain sealed envelopes bearing the label provided, which will be endorsed "Erection of Public Convenience—Hatch End," and delivered to my Office not later than 10 a.m. on TUESDAY, 31st October, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

DAVID PRITCHARD,  
Town Clerk.

Town Clerk's Office,  
Harrow Weald Lodge,  
92 Uxbridge Road,  
Harrow Weald,  
Harrow.

**BOROUGH OF ENFIELD.**  
RESURFACING OF MANOR FARM ESTATE, ENFIELD.

The COUNCIL invites TENDERS for the ABOVE WORKS, which comprise the Laying of approx. 600 tons of 2 in. thick Bitumen Macadam Carpeting, and other ancillary work.

The Specification, Bill of Quantities, Conditions of Contract and Form of Tender can be obtained from H. D. PEAKE, M.Sc. (Eng.), M.I.C.E., Borough Engineer and Surveyor, 7 Little Park Gardens, Enfield, Middlesex, upon payment of £2 deposit, returnable upon receipt of a bona-fide Tender and/or the return of all the documents.

The above documents can be inspected at the Borough Engineer's Office without charge during office hours (excluding Saturdays).

Tenders must reach the undersigned not later than Noon on TUESDAY, 17th October, 1961, and no Tender will be received except in the official Tender envelope, sealed and endorsed "Tender for Resurfacing Manor Farm Estate." The Tender envelope shall not bear any mark or name indicating the sender.

Tenders should note that the Council does not bind itself to accept the lowest or any Tender.

CYRIL E. C. R. PLATTEN,  
Town Clerk.

Civic Centre,  
Enfield, Middx.

**CITY OF NOTTINGHAM.**

The CORPORATION of the City of Nottingham invite TENDERS for the CONSTRUCTION of approx. 450 lin. yd. of OUTFALL SEWERS in 9 in. and 12 in., and 1,900 sq. yd. of ROADS and Footpaths at PLEASANT ROW, Hyson Green, Nottingham.

Tender documents may be obtained from the City Engineer, Guildhall, Nottingham, on payment of a deposit of Two Pounds which will be returned on receipt of a bona-fide Tender.

The Tender, together with a priced copy of the Bill of Quantities, is to be delivered in the official envelope supplied not later than 5 p.m. on TUESDAY, 10th October, 1961.

The lowest or any Tender will not necessarily be accepted, and Tenders will only be considered from firms paying the local standard rate of wages, etc., and who conform to the working rules of the Nottingham district.

T. J. OWEN,  
Town Clerk.

Guildhall,  
Nottingham.  
September, 1961.

**CITY OF CARDIFF.**  
CITY SURVEYOR'S DEPARTMENT.

STREET LIGHTING—ERECTION CONTRACT NO. 9.

FIXED-PRICE TENDERS are invited for the ERECTION of about 1,180 CLASS "B" CONCRETE COLUMNS and COMPLETE INSTALLATION of MERCURY FLUORESCENT LANTERNS and Associated Gear. Main items of equipment will be drawn from Cardiff's bulk supply contracts, and contractor will provide all labour and wiring necessary.

Conditions of Tender, Specification, Bills of Quantities and Drawings may be obtained from the City Surveyor, to whom application should be made, accompanied by a deposit of the sum of £2.25. Cheques should be made payable to the Cardiff Corporation and crossed "Not Negotiable and Co."

The deposit will be refunded on receipt of a bona-fide Tender or the return of the Contract documents by the closing date.

Tenders will not be considered unless enclosed in a plain sealed envelope endorsed "Tender for Street Lighting—Erection Contract No. 9," addressed to the undersigned at the City Hall, Cardiff, and sent by Registered Post or Recorded Delivery so as to be received not later than FRIDAY, 13th October, 1961.

The envelope must not bear the name of, or any mark indicating the identity of, the tenderer.

The Council does not bind itself to accept the lowest or any Tender.

S. TAPPER-JONES,  
Town Clerk.

City Hall,  
Cardiff.  
September, 1961.

**AMERSHAM RURAL DISTRICT COUNCIL.**  
ENGINEER AND SURVEYOR'S DEPARTMENT.

WYCHWOOD,  
LONDON ROAD, CHALFONT ST. GILES—  
EXTENSION OF EXISTING SEWER.

TENDERS are invited from experienced contractors for the LAYING of approx. 97 yd. of 6 in. dia. SEWER in Flexibly Jointed Grazed Stoneware Pipe, together with Manholes and other ancillary works.

Plans and Contract documents may be obtained from J. GODBEHERE, A.M.I.Mun.E., Engineer and Surveyor, Amersham Rural District Council, 42 High Street, Amersham, on payment of £2 which will be returned on receipt of a bona-fide Tender.

Application should be made before FRIDAY, 6th October.

H. E. BUXTON,  
Clerk to the Council.

Elmodesham House,  
42 High Street,  
Amersham, Bucks.

## CONTRACTS

**BOROUGH OF BROMLEY.**  
ERECTION OF HOUSES AND FLATS.

TENDERS are invited for the ERECTION of 30 HOUSES and 70 FLATS at BURNT ASH LANE, Bromley.

Drawings and Conditions of Contract (R.I.B.A. Form specially adapted for the use of local authorities) may be inspected upon application to the Borough Engineer, Municipal Offices, Bromley.

Contractors should apply for Bills of Quantities and Forms of Tender not later than FRIDAY, 13th October, 1961, to the Borough Engineer.

When applying for Bills of Quantities, contractors who have not previously carried out work for the Council, should also submit details of similar schemes undertaken by them, together with the names of two independent persons to whom references can be made concerning such schemes.

Tenders must be submitted, in the envelopes provided, to the undersigned not later than the date indicated on the Form of Tender.

The Council does not bind itself to accept the lowest or any Tender.

Municipal Offices,  
Bromley, Kent.

LIONEL KAYE,  
Town Clerk.

**BOROUGH OF NEWCASTLE-UNDER-LYME.**

## HIGHWAYS ACT, 1959.

TENDERS are invited for MAKING-UP DERWENT PLACE and THOMAS AVENUE, Cross Heath, Newcastle.

The works comprise the following:

- (1) Derwent Place—Approx. 370 sq. yd. of Excavation, Foundation and Macadam Surfacing in the Carriageway; Re-laying and/or Providing approx. 120 lin. yd. of Kerb; an amount of Surface Water Drainage, and other ancillary works.
- (2) Thomas Avenue—Approx. 1,020 sq. yd. of Excavation, Foundation and Macadam Surfacing in the Carriageway; Re-laying approx. 300 lin. yd. of Kerb; an amount of Surface Water Drainage, and other ancillary works.

Plans may be inspected, and Tender documents obtained, at the Office of the Borough Engineer and Surveyor, Lancaster Building, High Street, Newcastle, Staffs.

Tender Forms (in duplicate) and Bills of Quantities to be returned to me not later than 12 Noon on WEDNESDAY, 4th October, 1961, in plain sealed envelopes endorsed: (1) "Private Street Works—Cross Heath 'A'"; (2) "Private Street Works—Cross Heath 'B'".

C. J. MORTON,  
Town Clerk.

**ABERDEEN URBAN DISTRICT COUNCIL.**

## UNIFORM AND PROTECTIVE CLOTHING.

TENDERS are invited for the SUPPLY of UNIFORM and PROTECTIVE CLOTHING for the Council's employees for the year commencing 1st April, 1962.

Tender Forms and Schedules of Quantities may be obtained from the General Manager, Transport Offices, Gairdys, Aberdeen.

Tenders, in plain sealed envelopes bearing no mark or indication of the sender, but endorsed "Uniform Clothing," must reach me by not later than FRIDAY, 20th October, 1961.

The Council does not bind itself to accept the lowest or any Tender, and reserves the right to accept part of a Tender.

D. G. JAMES,  
Clerk of the Council.

Town Hall,  
Aberdeen.  
19th September, 1961.

**LEIGHTON BUZZARD URBAN DISTRICT COUNCIL.**

CONTRACT NO. 1—RECONSTRUCTION OF HEATH ROAD, LEIGHTON BUZZARD.

CONTRACT NO. 2—LAYING OF SURFACE WATER SEWER, BILLINGTON ROAD (8.486).

TENDERS are invited on a Fixed-price Basis for the FOLLOWING CONTRACTS:

CONTRACT NO. 1—The Reconstruction of Heath Road from The Lawns to Shenley Hill Road, including approx. 720 yd. of Kerb and Channel, Heating and Planning and Re-surfacing of approx. 5,000 sq. yd. of Carriageway, and Provision of Tarmacadam Footpaths.

CONTRACT NO. 2—The Laying of approx. 200 yd. of 12 in. and 9 in. Surface Water Sewer from Groveberry Road to The Eagle Public House, including Manholes and Gullies.

Bills of Quantities, Specification and Forms of Tender may be obtained from the Engineer and Surveyor, Council Offices, North Street, Leighton Buzzard, on receipt of a deposit of two Guineas, repayable on receipt of a bona-fide Tender.

The Drawings and General Conditions of Contract (I.C.E.) may be inspected at the Office of the above during normal working hours.

Tenders, in plain sealed envelopes endorsed "Contract No. 1" or "Contract No. 2," shall be delivered to the undersigned not later than 12 Noon on the 11th OCTOBER, 1961.

The Council does not bind itself to accept the lowest or any Tender.

D. L. OVERTON,  
Clerk of the Council.

Council Offices,  
Leighton Buzzard.

**WEST CUMBERLAND WATER BOARD.**

WORKINGTON MIDDLE ZONE SUPPLY—  
CONTRACT NO. 12—BOOSTER PUMP HOUSE.

TENDERS are invited for the CONSTRUCTION of a BRICK PUMP HOUSE with Slate Roof, to be sited at STAINBURN, near Workington.

The Building includes the Main Pump Room, Offices and Stores, and the Contract includes for attendance of the pump manufacturers during the installation of the machinery.

The Contract documents and Drawings will be supplied on receipt of a cheque for £5 made payable to the West Cumberland Water Board, which amount will be repaid on receipt of a bona-fide Tender.

Sealed Tenders endorsed "Contract No. 12—Pumping Station," must be delivered to the undersigned not later than Noon on TUESDAY, 31st October, 1961.

The Board does not bind itself to accept the lowest or any Tender.

F. CLAPHAM,  
Clerk of the Board.

Stoneleigh,  
Park End Road,  
Workington.  
20th September, 1961.

## CONTRACTS

**BOROUGH OF HOVE.**  
TENDERS are invited for the ERECTION of LADIES' and GENTLEMEN'S CONVENIENCES in GOLDSTONE VILLAS.

Tender documents may be obtained, and Conditions of Contract and Plans seen, at the Office of the Borough Engineer and Surveyor on payment of a deposit of £3 3s, which will be refunded on receipt of a bona-fide Tender.

Tenders, in the envelopes provided, must reach the undersigned not later than First Post on MONDAY, 23rd October, 1961.

JOHN E. STEVENS,  
Town Clerk.

Town Hall,  
Hove, 3.

**BOROUGH OF CASTLEFORD.**

## CONTRACT NO. 166.

MAKING-UP OF PRIVATE STREETS IN MANOR GROVE AREA, GLASSHOUGHTON, STREET NOS. 132-148 INCLUSIVE.

TENDERS are invited for the MAKING-UP of the 17 STREETS in the ABOVE AREA.

Approx. 4,900 sq. yd. of Carriageway will be constructed, consisting of 8 in. Pitching with Macadam Surfacing. A further area of 146 sq. yd. of Reinforced Concrete Carriageway will be constructed. The area of Footpath Works is 1,020 sq. yd., and this area will be flagged.

Copies of the Contract Drawings may be inspected at the Office of the Council's Consulting Engineer, Messrs. R. A. EASDALE AND SON, County Chambers, Wesley Street, Castleford.

Copies of the Form of Tender, General Conditions, Specifications and Bills of Quantities may be obtained from the Borough Engineer and Surveyor, Town Hall, Castleford, on the payment of a deposit of Two Guineas which will be refunded only upon the receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelopes marked "Making-up of Manor Grove Area," but otherwise bearing no mark indicating the sender, must be received by the undersigned not later than 9 a.m. on FRIDAY, 13th October, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

ERNEST HUTCHINSON,  
Town Clerk.

Town Hall,  
Castleford.

**SOUTH CAMBRIDGESHIRE RURAL DISTRICT COUNCIL.**

## EASTERN AREA WATER SUPPLY.

RIVEY HILL RESERVOIR AND BOOSTER STATION—  
CONTRACT NO. 5.

TENDERS are invited for the CONSTRUCTION, TESTING and MAINTENANCE of a BOOSTER STATION, a 300,000-gallon POST-TENSIONED CIRCULAR CONCRETE RESERVOIR, and all other works incidental thereto.

A copy of the Contract documents may be obtained from the Council's Consulting Engineers, MESSRS. LEMON AND BLIZARD, 59 Tuford Street, Westminister, S.W.1, upon payment of a deposit cheque of Five Guineas made payable to the Council, which will be returned on receipt of a bona-fide Tender and the return of all documents. The Form of Tender and a priced Bill of Quantities must be delivered, in a sealed envelope endorsed "Tender for Rivey Hill Reservoir and Booster Station," to the undersigned not later than TUESDAY, 24th October, 1961.

The Plans and Drawings may be seen during normal working hours at the Offices of the Consulting Engineers or the Council.

The Council do not bind themselves to accept the lowest or any Tender.

F. H. M. SARGENT,  
Clerk of the Council.

County Hall,  
Hobson Street,  
Cambridge.

**RICHMOND RURAL DISTRICT COUNCIL.**

## MARSKE WATER—CONTRACT NO. 1.

The Council invites TENDERS for the SUPPLY and LAYING of 2,700 yd. of 4 in. and 3 in. dia. SPUN-IRON WATER MAIN, together with the CONSTRUCTION of a COVERED SERVICE RESERVOIR of 30,000 gallons, and appurtenant works.

Form of Tender, Specification, Bill of Quantities, etc., may be obtained from the Council's Consulting Engineers, ARNOLD BROOKSBANK AND SON, 48 Sunbridge Road, Bradford, 1, on payment of a deposit of £3.25, by cheque, payable to the Richmond R.D.C.

Drawings may be seen at the Offices of the Consulting Engineers as above, or at the Council Offices, Richmond.

Tenders are to be on a Fixed-price Basis.

Tenders, complete with priced Bill of Quantities, etc., enclosed in a plain sealed envelope endorsed "Tender for Marske Water—Contract No. 1," must be forwarded to reach me not later than Noon on THURSDAY, the 26th October, 1961.

The lowest or any Tender will not necessarily be accepted, any acceptance being subject to approval by the Ministry of Housing and Local Government.

E. H. HODGE,  
Clerk of the Council.

Swale House,  
Richmond, Yorks.  
19th September, 1961.

**LEEDS REGIONAL HOSPITAL BOARD.**

## TO HEATING CONTRACTORS.

TENDERS are invited for CARRYING OUT the SUPPLY and INSTALLATION of ONE ADDITIONAL ECONOMIC STEAM BOILER and Mechanical Stokers on Four Existing Lancashire Boilers at SEACROFT HOSPITAL, YORK ROAD, Leeds.

Applications for Form of Tender and Specification and Drawings, accompanied by a deposit of £2.25, which will be refunded on receipt of a bona-fide Tender and other Contract documents, must be made to the Regional Engineer at the undermentioned address not later than 12 Noon on WEDNESDAY, 4th October, 1961. Cheques should be made payable to the Leeds Regional Hospital Board, and crossed.

A copy of the Drawings, Conditions of Tender and of the Regional Engineer, or at the Office of MESSRS. H. A. SANDFORD AND PARTNERS, Consulting Engineers, 2 Gate Street, Lincoln's Inn Fields, London, W.C.2.

Sealed Tenders, in the endorsed envelope provided, must be delivered to the undersigned not later than 12 Noon on WEDNESDAY, 1st November, 1961.

The Board does not bind itself to accept the lowest or any Tender.

WM. A. SHEE,  
Secretary to the Board.

Park Parade,  
Harrogate.



## CONTRACTS

## FLINTSHIRE COUNTY COUNCIL.

## HIGHWAYS DEPARTMENT.

TENDERS are invited for the SUPPLY and DELIVERY of INDUSTRIAL OVERALLS, CHROME LEATHER and RUBBER GLOVES, and RUBBER BOOTS. Forms of Tender, from County Surveyor, Llynegryn, Mold, to be returned to me by 16th OCTOBER, 1961.

W. HUGH JONES,  
Clerk of the County Council.

County Buildings,  
Mold.

## HAMPSHIRE COUNTY COUNCIL.

## COUNTY ROADS AND BRIDGES DEPARTMENT.

## ANDOVER RURAL DISTRICT.

TRUNK ROAD A.303—SUN INN-BELL P.H.,  
WEYHILL.

TENDERS will shortly be invited for the REALIGNMENT and RECONSTRUCTION of approx. ½ mile of the ABOVE ROAD.

The works include Excavation, Road Foundations in Gravel, Lean Concrete (or Dry Stone), Bituminous Macadam, Channelling, and all other incidental works. Applications for particulars should reach the undersigned not later than THURSDAY, 5th October, 1961. The Council do not undertake to accept the lowest or any Tender.

H. N. JENNER,  
County Surveyor.

The Castle,  
Winchester.

## COUNTY BOROUGH OF CROYDON.

## HARD TENNIS COURTS.

TENDERS are invited for RESURFACING Seven HARD TENNIS COURTS. Particulars and Tender Forms obtainable from the Borough Engineer, Town Hall, Croydon.

Closing date for Tenders, 26th OCTOBER, 1961.  
E. TABERNER,  
Town Clerk.

## BOROUGH OF MANSFIELD.

## BULL FARM HOUSING ESTATE.

## CONTRACT 35—TENANTS' MEETING ROOMS.

TENDERS are invited for the ERECTION OF TWO TENANTS' MEETING ROOMS. Drawings and Bills of Quantities, Forms of Tender, General Conditions of Contract, and other relevant documents obtained from E. T. CROWE, B.Sc., A.M.I.C.E., Borough Engineer and Surveyor, Carr Bank, Mansfield, on payment of a deposit of Two Guineas (£2 2s.) made payable to the Town Council of Mansfield, which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn, or the return of all loaned documents. These will be ready for distribution on and after FRIDAY, 29th September, 1961.

Tenders will only be considered if they are submitted in the envelope provided, which will be suitably endorsed and addressed. This must be sealed and delivered to the undersigned not later than 12 Noon on WEDNESDAY, 18th October, 1961.

The Corporation does not bind itself to accept the lowest or any Tender, and the provisional acceptance of a Tender will be subject to the approval of the Minister of Housing and Local Government.

S. W. R. CHRISTMAS,  
Town Clerk.

Carr Bank,  
Mansfield.

## BOROUGH OF PONTEFRACCT.

## MONKHILL RESEWERING.

FIXED-PRICE TENDERS are invited from suitably experienced contractors for the CONSTRUCTION of approx. 1,330 lin. yd. of 9in., 12in., 15in. and 21in. dia. SOIL SEWER in Strengthened Concrete Pipes in Fields and Roads; 16 lin. yd. of 21in. dia. PRECAST and IN-SITU CONCRETE CULVERT, and 67 lin. yd. of 21in. dia. ASBESTOS-CEMENT SEWER PIPE laid inside 5ft. 6in. internal dia. Precast Concrete Segmental Ring Tunnel under Railway Embankment, together with Precast Concrete and Brick Manholes, and other incidental works.

Copies of the Contract Drawings may be inspected during normal working hours at the Office of the Borough Engineer from whom copies of the Conditions of Contract, Specification, Bill of Quantities and Form of Tender may be obtained on payment of a deposit of £2 2s., which will be returned on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelopes endorsed "Tender—Monkhill Resewering," and bearing no name or mark indicating the sender, must be received by the undersigned not later than Noon, MONDAY, 23rd October, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. F. ROCK,  
Town Clerk.

Municipal Offices,  
Ponterfract, Yorks.

## FELIXSTOWE URBAN DISTRICT COUNCIL.

## PRIVATE STREET IMPROVEMENT WORKS.

FIXED-PRICE TENDERS are invited from public works contractors for the MAKING-UP of the FOLLOWING PRIVATE STREETS:

Part of Chaucer Road (approx. 181 lin. yd.).  
Part of Kemsley Road (approx. 38 lin. yd.).  
Newry Avenue (approx. 292 lin. yd.).  
Gayfield Avenue (approx. 172 lin. yd.).  
Surrey Road (approx. 168 lin. yd.).

The works comprise Surface Water Sewerage, Tarred Macadam Surfacing, In-situ Concrete Paving, Channelling, and incidental works.

Copies of the Specification and Bills of Quantities and Form and Conditions of Tender may be obtained from the Engineer and Surveyor, Town Hall, Felixstowe, on payment of a deposit of Two Guineas which will be returned on receipt of a bona-fide Tender, accompanied by all the required documents. The Drawings and General Conditions for Works of Civil Engineering Construction may be inspected at his Office.

Tenders, on the prescribed form, enclosed in a plain sealed envelope bearing no name or mark to indicate the sender, and endorsed "Tender for Private Streets," must be delivered to the undersigned by not later than 12 Noon on MONDAY, 16th October, 1961.

The Council does not bind itself to accept the lowest or any Tender.

R. W. HARVEY,  
Clerk of the Council.

Town Hall,  
Felixstowe.

## CONTRACTS

## ROYAL BOROUGH OF KINGSTON-UPON-THAMES.

## RECONSTRUCTION OF FOUL WATER SEWERS.

TENDERS are invited for the RECONSTRUCTION of approx. 1,180 yd. of CIRCULAR BRICK SEWERS varying in diameter between 18in. and 24in., together with ancillary works.

Tender documents from Borough Surveyor, Guildhall, Kingston-upon-Thames, on deposit of Two Guineas, returnable on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders to the undersigned by First Post on MONDAY, 16th October, 1961.

L. V. POWELL,  
Town Clerk.

Guildhall,  
Kingston-upon-Thames.

## BOROUGH OF BRIDGWATER.

## WEST STREET IMPROVEMENT.

TENDERS are invited for the RESHAPING and RESURFACING of WEST STREET, comprising Scarifying existing Carriageway, Reshaping with Stone and Surfacing with 3in. Tarmacadam (approx. area 3,800 sq. yd.).

Full particulars and documents may be obtained from the Borough Engineer, Town Hall, Bridgwater, on payment of a £2 2s. deposit. Closing date for receipt of Tenders, 10 a.m., MONDAY, 9th October, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

H. A. CLIDERO,  
Town Clerk.

## BOROUGH OF BRIDGWATER.

## STREET LIGHTING, 1961-62.

TENDERS are invited for the SUPPLY and INSTALLATION of 28 Group "A" CONCRETE COLUMNS and Eight Group "B" CONCRETE COLUMNS, together with LANTERNS and EQUIPMENT, also the SUPPLY and LAYING of 1,410 lin. yd. of UNDERGROUND CABLE.

Full particulars and documents may be obtained from the Borough Engineer, Town Hall, Bridgwater, on payment of a £2 2s. deposit. Closing date for receipt of Tenders, 10 a.m., MONDAY, 9th October, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

H. A. CLIDERO,  
Town Clerk.

## BOROUGH OF SUTTON COLDFIELD.

FIXED-PRICE TENDERS are invited for the FOLLOWING TWO CONTRACTS:

(a) Water Orton Lane Improvement.  
This Scheme comprises the complete Reconstruction of 500 yd. of Water Orton Lane, including Surface Water Drainage, Kerbing, Channelling, Road Foundations and Surfacing.

(b) Fox Hollies Road Surface Water Sewer.  
The works are in three sections: (1) Land Drainage of a Playing Field; (2) Laying of 15in. dia. Surface Water Sewer in Fox Hollies Road, and (3) Laying of 21in. dia. Surface Water Sewer through a sports ground.

Tender documents may be obtained from the Borough Engineer on payment of a deposit of £2 in respect of each Contract, which will be returned on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed and endorsed envelopes, must be delivered to the undersigned not later than Noon on MONDAY, 16th October, 1961.

J. P. HOLDEN,  
Town Clerk.

Council House,  
Sutton Coldfield.

## BOROUGH OF ROMFORD.

## IMPROVEMENT TO JUNCTION OF BALGOWS LANE WITH CARLTON ROAD.

TENDERS are invited for the FOLLOWING:

Taking-up and Re-laying 300 lin. yd. of Kerbs; Providing and Laying 550 lin. yd. of Kerbs; Providing and Laying 612 tons of Bituminous Concrete Regulating Course and 220 tons of Bituminous Wearing Course, and various ancillary works.

Tender documents obtainable from the Borough Engineer and Surveyor, Town Hall, Romford, enclosing cheque for £2 and deposit of £5 5s. (by cheque, made payable to the TOWN CLERK by 23rd OCTOBER, 1961.

## STOKESLEY RURAL DISTRICT COUNCIL.

## GREAT BROUGHTON AND KIRKBY SEWERAGE SCHEME.

The above-named Council invite TENDERS on a Fixed-price Basis for the FOLLOWING WORKS:

CONTRACT NO. 1—The Laying of some 5,700 yd. of 15in. to 6in. dia. Cast-iron, Concrete and Earthenware Pipe Sewers; 650 yd. of 4in. dia. Cast-iron Rising Main, and the Construction of an Ejector Station and a Disposal Works comprising Settling Tank, Percolating Filter, Humus Tanks, Sludge Drying Beds, and a Pumping Station.

CONTRACT NO. 2—The Supply and Erection of Electrically Operated Air Compressor and Ejector Plant in duplicate, each ejector to deliver 25 gallons per minute to 35ft. head.

Tender documents may be obtained from the Consulting Engineers, MESSRS. ARNOLD BROOKS-BANK AND SON, 48 Sunbridge Road, Bradford, on payment of a deposit of £5 5s. (by cheque, made payable to Stokesley Rural District Council) for each Contract. Such deposits will be returnable only on receipt of bona-fide Tenders not subsequently withdrawn, and the return of all documents within seven days of the date specified for the receipt of Tenders.

Drawings may be seen at the Office of the Consulting Engineers, as at the Council Offices, Stokesley, during normal office hours.

Tenders, complete with priced Bills of Quantities, etc., enclosed in a plain sealed envelope endorsed "Tender for Great Broughton and Kirkby Sewerage—Contract No. 1" (or "No. 2," as the case may be), must be forwarded to reach me not later than Noon on THURSDAY, 26th October, 1961.

The lowest or any Tender will not necessarily be accepted, and any acceptance will be subject to approval by the Ministry of Housing and Local Government.

H. WYNNE POTTS,  
Clerk of the Council.

Council Offices,  
Stokesley,  
Middlesbrough,  
20th September, 1961.

## CONTRACTS

## COUNTY COUNCIL OF DURHAM.

TENDERS invited for SUPPLY of DANEMANN AND WELMA SCHOOL MODEL PIANOS to SCHOOLS. Forms of Tender, returnable by 9th OCTOBER, 1961, and details from undersigned.

G. H. METCALFE,  
Director of Education.

Shire Hall,  
Durham.

18th September, 1961.

## COUNTY BOROUGH OF BLACKPOOL.

## SUPPLY OF ADVANCE DIRECTION SIGNS.

TENDERS, by 2.30 p.m., FRIDAY, 13th October, are invited for the SUPPLY and DELIVERY of 18 ADVANCE DIRECTION SIGNS, made of either Glass Fibre or Vitreous Enamelled Sheet Steel.

Specification, Form of Tender and Drawing from BOROUGH SURVEYOR (P.O. Box 17), Municipal Offices, Blackpool.

## BOROUGH OF CHELMSFORD.

## BOWLING GREEN—CENTRAL PARK.

TENDERS are invited for the CONSTRUCTION of a SIX-RINK BOWLING GREEN.

Plans, Specifications and Form of Tender may be obtained from the Parks Superintendent, Municipal Offices, Chelmsford, upon payment of Two Guineas which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders are to be delivered to the undersigned not later than Noon on FRIDAY, 20th October, 1961.

B. A. FRANCIS,  
Town Clerk.

Municipal Offices,  
Chelmsford.

19th September, 1961.

## BOROUGH OF ECCLES.

TENDERS are invited, returnable to the undersigned not later than 10 a.m., on MONDAY, 16th October, 1961, for SURFACING CARRIAGEWAYS with 2in. (approx.) BITUMINOUS MACADAM, and SURFACE DRESSING in DISTRICT ROADS, in various parts of the Borough (area approx. 5,000 super. yd.).

Plans may be seen, and documents obtained, on application to the Borough Engineer and Surveyor, Town Hall Annex, Irwell Place, Eccles.

The Corporation do not bind themselves to accept the lowest or any Tender.

NORMAN MITCHELL,  
Town Clerk.

Town Hall,  
Eccles.

September, 1961.

## BOROUGH OF ROMFORD.

## CHAIN LINK FENCING—OLDCHURCH PARK.

TENDERS are invited for the PROVISION of about 700 lin. yd. of 6ft. high CHAIN LINK MESH and CONCRETE POSTS, together with GATES and ancillary works, at THIS PARK.

Contract documents obtainable from Borough Engineer and Surveyor, Town Hall, Romford, upon application, on deposit of cheque for £2 2s., returnable on receipt by the TOWN CLERK of a bona-fide Tender, in the envelope provided, by 10th OCTOBER.

## BRIERFIELD URBAN DISTRICT COUNCIL.

## HIGHWAYS ACT, 1959.

TENDERS are invited from experienced public works contractors for the MAKING-UP under the Highways Act, 1959, of Three PRIVATE STREETS within this District.

Specification and Forms of Tender may be obtained from the Surveyor, Town Hall, Brierfield, on payment of £2 2s., returnable upon receipt of bona-fide Tender. The lowest or any Tender will not necessarily be accepted.

Tenders, in a plain sealed envelope, endorsed "Private Street Works," must be received by the CLERK OF THE COUNCIL, Town Hall, Brierfield, not later than 12th OCTOBER, 1961.

## CARLTON URBAN DISTRICT COUNCIL.

## HIGHWAYS ACT, 1959 (PART IX).

## PROPOSED MAKING-UP OF CASTLETON AVENUE, CARLTON.

TENDERS are invited for the CONSTRUCTION of CARRIAGEWAYS, FOOTWAYS, and incidental works at Castleton Avenue, Carlton.

Specifications, Bills of Quantities and Forms of Tender may be obtained from the Engineer and Surveyor, E. C. KIRK, A.M.I.C.E., F.R.I.C.S., M.I.Mun.E., where Drawings and General Conditions of Contract may be inspected during normal office hours.

Deposit of £2, returnable on receipt of bona-fide Tenders not subsequently withdrawn.

Tenders, in a plain sealed envelope endorsed "Private Street Works," to reach the undersigned not later than 10 a.m., TUESDAY, 17th October, 1961.

The Council does not bind itself to accept the lowest or any Tender.

A. E. F. WALKER,  
Clerk of the Council.

Council House,  
Burton Road,  
Carlton.

Nottingham,  
20th September, 1961.

## YORK "A" AND TADCASTER HOSPITAL MANAGEMENT COMMITTEE.

## TO ROADBUILDING CONTRACTORS.

FIXED-PRICE TENDERS are invited for ROAD WORKS required at NABURN HOSPITAL, York.

Applications for Forms of Tender and Bills of Quantities, accompanied by a deposit of Two Guineas (which will be returned on receipt of a bona-fide Tender), must be made to COLIN ROWNTREE AND PARTNERS, 120 The Mount, York, not later than FRIDAY, 12th OCTOBER, 1961.

Cheques should be made payable to York "A" and Tadcaster Hospital Management Committee. A copy of the Drawings, Conditions of Tender and Conditions of Contract may be inspected at the Offices of Colin Rowntree and Partners.

The Hospital Management Committee does not bind itself to the lowest or any Tender. Tenders to be returned, addressed to the undersigned, not later than 12 Noon on 3rd NOVEMBER, 1961, in the special envelope provided.

F. A. MILNES,  
Group Secretary.

York "A" and Tadcaster H.M.C.,  
Bootham Park,  
York.



## CONTRACTS

## WORCESTERSHIRE COUNTY COUNCIL.

## RUBERY BY-PASS.

CONSTRUCTION OF GANNOW ROAD  
PEDESTRIAN SUBWAY.

TENDERS are invited for the CONSTRUCTION of the ABOVE SUBWAY.

The works include 48 lin. yd. of Reinforced Concrete Vertical Beam Abutment Subway 74 lin. yd. of Reinforced Concrete Ramps with applied internal finishes, and 230 lin. yd. of Road Works in diverting the existing A.38.

Tender documents can be obtained from the COUNTY SURVEYOR AND BRIDGEMASTER, County Buildings, Worcester, to whom Tenders must be delivered not later than 12 Noon, MONDAY, 23rd October, 1961. (R.64.)

## WEST SUSSEX COUNTY COUNCIL.

BRIDGE WIDENING AND ROADWORKS AT  
LOXWOOD, ROUTE B.2133.

FIXED-PRICE TENDERS are invited from experienced contractors for the WIDENING OF LOXWOOD BRIDGE. Brick-faced Mass Concrete Walls: 30ft. Prestressed Concrete Slabs: 100 yds. of concrete. Roadwork and Resurfacing of approx. 400 lin. yd. of Approach Road.

Written notice of desire to tender should be made to the County Surveyor, County Hall, Chichester, accompanied by cheque for Two Guineas, made payable to West Sussex County Council, which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

T. C. HAYWARD,  
Clerk of the County Council.

## CITY OF LEICESTER.

## NEW ROAD—BLACKBIRD ROAD TO ABBEY GATE.

TENDERS are invited from contractors experienced in similar work, for the FOLLOWING:

Approx. 3,700 sq. yd. Lean-Mix Concrete with Dense Bituminous Surfacing.

Approx. 1,550 sq. yd. Flagged Footway.

Approx. 180 lin. yd. 36in. dia. Surface Water Sewers.

Approx. 400 lin. yd. 9in. dia. Foul Water Sewers: together with other incidental works.

Full details and Forms of Tender are available from the undersigned on payment of One Guinea, refundable on receipt of a bona-fide Tender.

Tenders to be returned, in the official envelope, by 4.30 p.m., MONDAY, 16th October, 1961.

JOHN L. BECKETT, M.I.C.E.,  
City Surveyor.

Town Hall,  
Leicester.

## CHICHESTER CITY COUNCIL.

## MILL LANE PUMPING STATION.

TENDERS are invited for the REPLACEMENT OF SEWAGE PUMPING MACHINERY and Control Gear, comprising three sets of Pumps and Motors, at Mill Lane Pumping Station, to handle a maximum flow of 850 g.p.m. through an 8in. rising main 3,100ft. in length.

Tender documents may be obtained from the City Engineer and Surveyor on payment of a deposit of Two Guineas which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn, and the return of all documents.

Tenders, in plain sealed envelopes endorsed "Mill Lane Pumping Station," bearing no mark of the sender, must be delivered to the undersigned not later than First Post, FRIDAY, 17th November, 1961.

The Council do not bind themselves to accept the lowest or any Tender, and the contractor whose Tender is accepted must be prepared to enter into a Contract and Bond in a form to be prepared by me.

ERIC BANKS,  
Town Clerk.

Greyfriars,  
North Street,  
Chichester,  
Sussex.

## HOWDEN RURAL DISTRICT COUNCIL.

## NEWPORT AND GILBERDYKE SEWERAGE SCHEME.

## CONTRACT NO. 1.

TENDERS are invited for the CONSTRUCTION of approx. 7,850 yd. of 6in., 2.115 yd. of 9in. CONCRETE PIPE SEWERS, and 450 yd. of 12in. SPUN-IRON and CONCRETE PIPE SEWERS, together with Manholes: 1,500 yd. of 4in., 685 yd. of 5in., 45 yd. of 7in., and 4,100 yd. of 8in. ASBESTOS-CEMENT RISING MAIN, together with SIX SEWAGE PUMPING STATIONS, for the villages of Newport and Gilberdyke, and SEWAGE TREATMENT WORKS to be constructed on the Beverley and Howden Joint Trunk Sewer, in the East Riding of Yorkshire.

Contractors wishing to tender for these works should apply for the documents to the Council's Consulting Engineers, JOHN H. HAISTE AND PARTNERS, Belmont House, 20 Wood Lane, Headingley, Leeds, 6, enclosing a deposit cheque value Three Guineas, made payable to the Howden R.D.C., such deposit to be refunded on receipt of a bona-fide Tender, and the return of all the documents.

Tenders, with the Bills of Quantities priced in ink, are to be submitted to the undersigned not later than 12 Noon on the 27th October, 1961.

The Council do not bind themselves to accept the lowest or any Tender they may receive.

JOHN GREEN,  
Clerk to the Council.

14 St. John Street,  
Howden,  
Goole, Yorks.

NEWBIGGIN-BY-THE-SEA  
URBAN DISTRICT COUNCIL.

## MOOR HOUSING ESTATE.

## ERECTION OF 114 DWELLINGS.

FIXED-PRICE TENDERS are invited for the ERECTION OF 114 HOMEVILLE TRADITIONAL HOUSES, TWO-STORY FLATS and BUNGALOWS, with External Works and Services, and Roadworks.

Tender documents are obtainable from the Surveyor, Council Offices, Newbiggin-by-the-Sea, on the deposit of £5 ss. made out to the Newbiggin-by-the-Sea U.D.C., refundable on receipt of a bona-fide Tender and return of all documents.

Tenders must reach the undersigned not later than 12 Noon on MONDAY, the 30th October, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. A. ROBSON,  
Clerk of the Council.

Council Offices,  
Newbiggin-by-the-Sea,  
Northumberland.

## CONTRACTS

COUNTY BOROUGH OF OLDHAM  
WATCH COMMITTEE.

## THORNEYCROFT DEVELOPMENT.

EIGHT THREE-BEDROOM HOUSES;  
EIGHT BRICK GARAGES.

The Watch Committee are prepared to receive FIXED-PRICE TENDERS for the DEMOLITION of FLAT NOS. 280, 282a and 282b, the property known as Thorneycroft, Ripponden Road, and the ERECTION of EIGHT PERMANENT TRADITIONAL DWELLINGS and EIGHT BRICK GARAGES on the Cleared Site and Grounds, from firms experienced in the execution of such contracts.

Drawings may be inspected, and Bills of Quantities, Form of Tender and General Conditions may be obtained from MESSRS. CAMERON & MIDDLETON, F.A.R.I.C.S., Chartered Quantity Surveyors, 21 Mumps, Oldham, on payment of a deposit of Two Guineas which will be returned on receipt of a bona-fide Tender not subsequently withdrawn. Cheques, etc., to be crossed and made payable to the Borough Treasurer, Oldham Corporation. The Bills of Quantities will be available on and after Monday, the 25th September, 1961.

Tenders will only be considered if they are submitted in the envelope provided, sealed and delivered not later than MONDAY, the 16th October, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender. The Contract will be subject to the Standing Orders of the Council, which include a requirement in this case for the provision of sureties.

## BOROUGH OF WILLESDEN.

RECONSTRUCTION AND RESURFACING OF  
DOYLE GARDENS-ALL SOULS AVENUE TO  
ENTRANCE WILLESDEN COUNTY GRAMMAR  
SCHOOL.

TENDERS are invited from experienced contractors for the ABOVE WORK, which consists of the Resurfacing and Resurfacing of approx. 1,300 lin. ft. of Carriageway with Cold Asphalt in a residential area, the Taking-up and Re-laying of Kerb and Artificial Stone Paving, together with a new Footpath and ancillary works.

The Contract documents may be obtained from the Borough Engineer and Surveyor, Town Hall, Dyne Road, N.W.6, upon application, accompanied by a deposit of Two Guineas which will be returned upon receipt of a bona-fide Tender not subsequently accepted.

Sealed Tenders must reach the undersigned not later than 10 a.m., MONDAY, 30th October, 1961.

R. S. FORSTER,  
Town Clerk.

## BOROUGH OF WILLESDEN.

SALUSBURY ROAD BRIDGE—  
CONSTRUCTION OF RETAINING WALL, ETC.

TENDERS are invited for the CONSTRUCTION of a REINFORCED CONCRETE RETAINING WALL, together with Ancillary Accommodation Works, at Salusbury Road Bridge, Queens Park.

Tender documents may be obtained from the Borough Engineer and Surveyor, Town Hall, Dyne Road, N.W.6, upon application in writing.

The sealed Tender must be submitted in the envelope provided, and must not bear any name or mark of the sender, and must reach the undersigned by not later than 10 a.m. on WEDNESDAY, 11th October, 1961.

The Council do not bind itself to accept the lowest or any Tender.

R. S. FORSTER,  
Town Clerk.

Town Hall,  
Dyne Road,  
Kilburn, N.W.6.

14th September, 1961.

ASHTON-IN-MAKERFIELD  
URBAN DISTRICT COUNCIL.110 DWELLINGS—LOW BANK ROAD  
HOUSING ESTATE.

FIXED-PRICE TENDERS are invited for the ERECTION OF 110 DWELLINGS on the ABOVE SITE.

Tender documents may be obtained from MESSRS. CHEETHAM AND PARTNERS, Chartered Architects, 7a Library Street, Wigan, on deposit of Five Guineas (by cheque, payable to Ashton-in-Makerfield Urban District Council), which will be refunded on receipt of a bona-fide Tender, and subject to all documents issued to the contractor being returned within seven days of notice informing him that a Tender has been accepted.

Tenders, in plain sealed envelopes endorsed "Low Bank Road Housing Estate—110 Dwellings," should be delivered to the undersigned not later than the 27th OCTOBER, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

FRANK DEAN,  
Clerk of the Council.

Town Hall,  
Ashton-in-Makerfield,  
Lancs.

## THURROCK URBAN DISTRICT COUNCIL.

## ENGINEER AND SURVEYOR'S DEPARTMENT.

## MAINTENANCE WORKS ON HIGHWAYS, 1961/62.

TENDERS are invited for MAINTENANCE and MINOR IMPROVEMENT WORKS on TRUNK and CLASSIFIED ROADS during the current financial year.

Work provides for Breaking-out and Providing approx. 6,000 sq. yd. Reinforced Concrete Carriageway, 5,500 sq. yd. Concrete Haunches, and Scarifying and Laying 10,500 tons Asphalt as Build-up and Surfacing, together with Kerbing, Drainage and other ancillary works.

Forms of Tender, Specification and Schedule may be obtained on application from the Engineer and Surveyor, Council Offices, Whitehall Lane, Grays, on payment of Two Guineas deposit, which will be refunded on receipt of a bona-fide Tender.

Copies of the Drawings and General Conditions of Contract may be inspected at the Engineer and Surveyor's Office during normal office hours.

Tenders for the First Part of the Works, together with priced Schedules, must be delivered to the Clerk of the Council, in the envelope provided, by not later than 12 Noon on TUESDAY, 10th October, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

A. E. POOLE,  
Clerk of the Council.

Council Offices,  
Whitehall Lane,  
Grays,  
18th September, 1961.

## CONTRACTS

## KENT COUNTY COUNCIL.

The above Council invites TENDERS, by not later than the 16th OCTOBER, 1961, for the CONSTRUCTION of TARMACADAM CARRIAGeways and Footpaths, together with Surface Water Drainage, and incidental works, at the FOLLOWING PRIVATE STREETS:

Harold Road, Saxon Road and Alfred Road, Hextable—total length 955 yd.

Part of West View Road, Swanley—length 77 yd.

Parts of Clarence Road and Avondale Road, Capel-le-Ferne, near Folkestone—total length 240 yd.

Drawings may be inspected, and Specifications, with Bills of Quantities, obtained from the County Surveyor, County Hall, Maidstone, on payment of £2 (each), returnable upon receipt of bona-fide Tenders.

S. T. HECKELS,  
Clerk of the County Council.

## COUNTY BOROUGH OF GATESHEAD.

## TYNE MAIN ROAD—SUBSOIL DRAINAGE.

TENDERS are invited from experienced contractors for the LAYING of a SUBSOIL DRAIN near Tyne Main Road, Gateshead.

The work consists of the Laying of approx. 210 yd. of 12in. dia. Pitch and Brick Drain, with Manholes, averaging 14ft., together with appropriate Manholes.

Details and Form of Tender obtainable from the Borough Surveyor, Municipal Buildings, Swinburne Street, Gateshead, 8, on payment of a deposit of £2 by cheque made payable to the Borough Treasurer, which will be returned on receipt of a bona-fide Tender and the return of all documents and drawings supplied.

Tenders should be returned to the undersigned not later than 12 Noon on 14th OCTOBER, 1961.

C. D. JACKSON,  
Town Clerk.

Town Hall,  
Gateshead, 8,  
September, 1961.

## BOROUGH OF TAUNTON.

## STAPLEGROVE—BRIDGE LINK WATER MAIN.

FIXED-PRICE TENDERS are invited for the LAYING of approx. 2,600 yd. of 15in. 12in. and 9in. dia. SPUN-IRON PIPES with Tyton Joints.

Form of Tender, Specification and Bills of Quantities may be obtained from W. J. WONNACOTT, M.I.C.E., Engineer and Manager, Flook House, Station Road, Taunton, on payment of a deposit of Two Guineas (by cheque only), payable to the Taunton Corporation.

Tenders must be sent to me not later than 10 a.m. on WEDNESDAY, 18th October, 1961.

K. A. HORNE,  
Town Clerk.

Municipal Buildings,  
Taunton.

CITY AND COUNTY OF  
NEWCASTLE UPON TYNE.

TENDERS are invited for the SUPPLY and FREE DELIVERY to NEWCASTLE QUAY of TWO DIESEL/ELECTRIC MOBILE CRANES, capable of lifting loads up to a maximum of 3 tons, on pneumatics. Contractors should state out-reach with various loads, and approx. date of delivery.

Further particulars may be obtained at the Office of the CITY ENGINEER, Town Hall, Newcastle upon Tyne, 1.

CITY AND COUNTY OF  
NEWCASTLE UPON TYNE.

TENDERS are invited for the SUPPLY and FREE DELIVERY to NEWCASTLE QUAY of TWO DIESEL-ENGINE FORKLIFT TRUCKS on Pneumatics, maximum load 3 tons, height of mast 16ft. To be fitted with Jib Attachment.

Further particulars may be obtained at the Office of the CITY ENGINEER, Town Hall, Newcastle upon Tyne, 1.

## CITY OF LEICESTER.

## MISCELLANEOUS ROADWORKS.

TENDERS are invited from contractors with suitable experience for CARRYING OUT the MISCELLANEOUS ROADWORKS listed below and at the FOLLOWING SIX SITES within the City:

- (1) West Bridge—Widening of existing Carriageway over bridge by approx. 4ft.
- (2) Lutterworth Road, near City Boundary—Construction of "Bus Lay-by"
- (3) Melton Road, opposite A.E.I. Works—Closing of existing Opening to Central Reservation, and Construction of new Opening.
- (4) Wellington Street/Waterloo Street Junction—Re-alignment of Kerb, and Construction of new Footway.
- (5) Narrow Lane off Belgrave Gate—Reconstruction of approx. 120 sq. yd. of Carriageway.
- (6) Baker Street Redevelopment Area—Construction of new Asphalt Surfaced Carriageway, Footways, and 9in. dia. F.W. Sewer between Northampton Street and Baker Street.

Full details and Forms of Tender are obtainable from the undersigned on payment of One Guinea, refundable on receipt of a bona-fide Tender.

Tenders to be returned in the official envelope by 4.30 p.m., FRIDAY, 20th October, 1961.

JOHN L. BECKETT, M.I.C.E.,  
City Surveyor.

Town Hall,  
Leicester.

## WINSLOW RURAL DISTRICT COUNCIL.

## ROADS AND SEWERS—NEWTON LONGVILLE.

TENDERS are invited for the ABOVE CONTRACT, consisting of the FOLLOWING:

Approx. 1,650 sq. yd. of Carriageway Tarmac Surface, with Granite Set Kerbing and Concrete Channels;  
940 sq. yd. of Footpaths;  
700 lin. yd. of 6in. dia. Stoneware Pipe Sewers, and incidental works.

Contract documents can be obtained from A. J. BATES, A.R.I.B.A., 20 Kingsbury, Aylesbury, Bucks., on payment of a deposit of £1 2s. payable to the Winslow R.D.C., which will be returned on receipt of a bona-fide Tender not subsequently withdrawn, and return of all documents.

Tenders, in plain sealed, envelopes endorsed "Newton Longville Site Works," to be delivered to the undersigned not later than 26th OCTOBER, 1961.

R. G. BROWN,  
Clerk of the Council.

28 High Street,  
Winslow,  
Bletchley, Bucks.

## CONTRACTS

## KARACHI PORT TRUST

KARACHI, PAKISTAN.

## TENDER NOTICE.

TENDERS are invited for the CONSTRUCTION of a NEW OIL TERMINAL to the South of the existing Bulk Oil Pier in KARACHI HARBOUR.

The New Oil Terminal will be about 930ft. long, with an operational depth of 34½ft. of water alongside to cater for tankers up to about 32,000 tons deadweight.

The structure will comprise the following:

- (a) An Approach Arm about 825ft. long, having a Pipe Track, Roadway and Turning Bay;
- (b) A Jetty Head 650ft. long and 38ft. wide, together with five mooring dolphins with connecting walkways.

The new jetty will carry the necessary arrangements for oil, products and service pipelines, hose-handling, fire-fighting, and other equipment.

It is envisaged that the constructional work will generally be carried out from floating craft, and the superstructure of the jetty and associated dolphins will be of normally Reinforced Concrete supported on Steel Box Piles.

Tender documents containing Instructions for Tender, General Conditions of Contract, Forms of Tender, Agreement and Bond, Specification, Bill of Quantities and Drawings may be obtained from either the Chief Engineer, Karachi Port Trust, Karachi, Pakistan, on payment of Rs. 200.00 per set to the Habib Bank, Ltd., K.P.T. Branch, or from Rendel, Palmer and Tritton, Consulting Civil Engineers, 125 Victoria Street, London S.W.1, on payment of a non-refundable sum of £15 sterling.

Tenders, in sealed covers marked "Construction of a New Oil Terminal at Kearnari, Karachi" be forwarded to the CHIEF ENGINEER, THE PORT TRUST, to arrive not later than 12 Noon on the 6th NOVEMBER, 1961, and will be opened in the presence of those tenderers who may be present.

The Port Trust do not bind themselves to accept the lowest or any Tender.

12th September, 1961.

## DURHAM COUNTY COUNCIL.

ROAD A.177—  
ROUNDAUT NEAR NEW COUNTY HALL,  
AYKLEY HEADS, DURHAM.

## OVERHEAD LIGHTING.

FIXED-PRICE TENDERS are invited for the SUPPLY, ERECTION and PUTTING INTO SERVICE of a total of 20 OVERHEAD LIGHTING UNITS on, and adjacent to, the ABOVE ROUNDAUT.

The Lanterns are to be 400-W Colour Corrected Mercury Vapour type, eleven with cut-off distribution and nine non-cut-off, mounted at a height of 25ft. on steel columns.

Forms and Conditions of Tender, Conditions of Contract, Specifications and Schedules obtainable from the County Surveyor, Aykley Heads, Durham.

Tenders, in plain sealed envelopes endorsed "Tender for Overhead Lighting," to be delivered to the undersigned not later than Noon on MONDAY, 16th October, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. T. BROCKBANK,

Clerk of the County Council.

## BOROUGH OF BRIDGWATER.

## RECONSTRUCTION OF EASTOVER (A.38).

TENDERS are invited for the RECONSTRUCTION of EASTOVER, the work comprising Breaking-out approx. 2,700 sq. yd. of Reinforced Concrete Carriageway, the Re-laying of approx. 1,700 sq. yd. of Slab paving, and approx. 500 lin. yd. of Kerbing, together with all ancillary works.

Full particulars and documents may be obtained from the Borough Engineer, Town Hall, Bridgwater, on payment of a £2 2s. deposit.

Closing date for receipt of Tenders: 10 a.m., MONDAY, 30th October, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

H. A. CLIDERO,

Town Clerk.

## BARNET URBAN DISTRICT COUNCIL.

## BARNET GATE LANE—SOIL AND SURFACE WATER SEWERS.

The Council invite TENDERS for the LAYING of approx. 3,200 lin. yd. of STONEWARE PIPE SOIL and SURFACE WATER SEWER of 6in., 9in. and 12in. dia., certain lengths of which will be laid with two pipes in one trench, together with Precast Concrete Manholes, and other ancillary works.

Conditions of Contract and Drawings may be inspected, and Specification of Works, Bill of Quantities and Form of Tender obtained on application to the Engineer and Surveyor, Ravenscroft House, Wood Street, Barnet, on any day (Saturdays excepted) between the hours of 9 a.m. and 5 p.m.

Sealed Tenders must be delivered to the undersigned not later than 12 Noon on SATURDAY, the 14th October, 1961, and marked in the top left-hand corner of the envelope "Barnet Gate Lane Sewer."

The Council do not bind itself to accept the lowest or any Tender.

ALFRED S. MAYS,

Clerk of the Council.

Municipal Offices,

Wood Street,

Barnet, Herts.

20th September, 1961.

## CHESTERFIELD RURAL DISTRICT COUNCIL.

TENDERS are invited for the FOLLOWING SCHEMES:

- (a) Construction of Footpaths, Verges and Lay-by at Reynard Crescent, Renishaw.
- (b) Construction of Footpaths and Verges on parts of Arnold Avenue, Stoneley Crescent and Stoneley Close, Charnock Hall Estate, Gleadless.

Scheme (a) comprises 660 sq. yd. of 2in. Tarmacadam Footpath and 540 lin. yd. of 2in. x 6in. Concrete Edging. Scheme (b) comprises 1,150 sq. yd. of 2in. Tarmacadam Footpath and 1,100 lin. yd. of 2in. x 6in. Concrete Edging.

Plans and General Conditions of Contract may be seen at the Engineer's Department. Bills of Quantities, Specification and Form of Tender may be obtained on application to the Council's Engineer and Surveyor, J. B. WIKLEY, M.Eng., M.I.C.E., M.I.Mun.E., Barrister-at-Law, Rural Council House, Saltergate, Chesterfield, on payment of Two Guineas for each Scheme, which sum shall be refundable on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in a plain sealed envelope suitably endorsed as described in the documents, should be returned to the Clerk of the Council by not later than 12 Noon on TUESDAY, 10th October, 1961.

H. O. HAWKINS,

Clerk of the Council.

## CONTRACTS

## COUNTY BOROUGH OF PRESTON.

FIXED-PRICE TENDERS are invited for the ERECTION of 141 DWELLINGS and 68 GARAGES, INGOL, Preston.

Drawings may be inspected at the Offices of the Borough Engineer and Surveyor, Municipal Building, Preston, from whom Bills of Quantities may be obtained on payment of a deposit of £2 2s., returnable on receipt of bona-fide Tender.

Tenders to be received by me not later than 10 a.m., THURSDAY, 19th October, 1961.

W. E. E. LOCKLEY,

Municipal Building,

Preston.

Town Clerk.

## BOROUGH OF CHINGFORD.

## MINOR ROAD IMPROVEMENTS AND RESURFACING WORKS.

(A) KINGS ROAD, A.110.

(B) FRIDAY HILL, B.160.

TENDERS are invited for the ABOVE WORKS, which comprise the Scarifying and Resurfacing with Bituminous Concrete and Hot Rolled Asphalt of approx. 3,020 sq. yd. of Carriageway, together with approx. 660 lin. yd. of Subsoil Drainage, and other incidental works.

Form of Tender, Bills of Quantities, etc., may be obtained, and Drawings inspected, on application to the Borough Engineer, Town Hall, E.4, upon payment of £2 2s., returnable in respect of a bona-fide Tender only.

Sealed Tenders, in the envelopes provided, which shall not bear any mark indicating the sender, are to be delivered to me not later than 12 Noon on TUESDAY, 17th October, 1961, and Tenders received after this time will not be considered.

The Council do not bind itself to accept the lowest or any Tender.

C. G. DENNIS,

Town Hall,

Chingford, E.4.

Town Clerk.

## BOROUGH OF OLDBURY.

## LION FARM ESTATE—KERBING AND FLAGGING—STAGE II.

CONTRACT NO. 61/12.

TENDERS are invited, on a Fixed-price Basis, for the PROVISION of approx. 1,200 yd. of KERB and CHANNEL, approx. 1,400 sq. yd. of CONCRETE FLAGGING, at the ABOVE ESTATE.

Copies of the General Conditions of Contract and Drawings may be inspected at the Office of the Borough Engineer and Surveyor, Municipal Bank Chambers, Oldbury, from whom copies of the Bills of Quantities, Specification, Form of Tender and Conditions of Tender may be obtained on payment of £2 2s. (cheques made payable to the Borough of Oldbury), which will be refunded following the receipt of a bona-fide Tender not subsequently withdrawn.

Tenders are to be delivered to the undersigned in the envelope provided, which should bear no name or mark indicating the sender, not later than Noon on THURSDAY, the 12th October, 1961.

The Corporation do not bind itself to accept the lowest or any Tender.

KENNETH PEARCE,

Municipal Buildings,

Oldbury,

Near Birmingham.

September, 1961.

Town Clerk.

## BOROUGH OF PUDSEY.

## ADVANCE PREPARATION OF HOUSING SITE.

The CORPORATION invite TENDERS from civil engineering contractors for the CONSTRUCTION of ADVANCE ROADWORKS and SEWERS on the VALLEY ROAD HOUSING ESTATE, Pudsey.

Drawings and Conditions of Contract may be seen, and Specifications and Bills of Quantities obtained from the Borough Surveyor, Town Hall, Pudsey, on payment of a deposit of £2 2s., which will be returned on receipt of a bona-fide Tender.

Sealed Tenders in the envelope provided, endorsed "Roads and Sewers—Valley Road Housing Site," must be returned to the undersigned not later than 9 a.m., SATURDAY, the 14th October, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

W. RICHARD CRUSE,

Town Hall,

Pudsey.

Town Clerk.

## CITY OF ROCHESTER.

- (1) WARREN WOOD REDEVELOPMENT—STAGE 6. 39 HOUSES, 16 FLATS, 2 SHOPS AND 5 GARAGES.
- (2) EARL ESTATE—STAGE 1D. 68 HOUSES.

TENDERS are invited for the ERECTION of the ABOVE DWELLINGS.

Tender documents, 1/4 obtained from JAMES A. PEELE, A.M.I.C.E., W.I.Mun.E., City Surveyor, 66 Maidstone Road, Rochester, upon payment of £3 3s. deposit in respect of each Scheme, which will be refunded upon receipt of a bona-fide Tender.

A Fixed-price Tender, together with an alternative Tender incorporating the fluctuations clause of the R.I.B.A. Form of Contract, will be required in respect of each Scheme.

Documents in respect of Item 1 above will be issued on or about 10th October, 1961, and are to be returned before 12 Noon on TUESDAY, 7th November, 1961.

Documents in respect of Item 2 above will be issued on or about 3rd October, 1961, and are to be returned before 12 Noon on TUESDAY, 24th October, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender.

PHILIP H. BARTLETT,

The Guildhall,

Rochester.

September, 1961.

Town Clerk.

## THE QUEEN'S UNIVERSITY OF BELFAST.

## MALONE PLAYING FIELDS.

The University invites applications from contractors who wish to be considered as TENDERS for the CONSTRUCTION of PLAYING FIELDS on an 100-acre site at Malone, Belfast.

Details may be obtained from the University's Consulting Engineers, MESSRS. MUNCE AND KENNEDY, at 133 University Street, Belfast, 7, or at Chiron House, 10/11 Balfour Place, London, W.1.

G. R. COWIE, M.A., LL.B., J.P.,

Secretary.

Queen's University,

Belfast, 7.

## CONTRACTS

## ROYAL BOROUGH OF NEW WINDSOR.

## ANNUAL CONTRACTS, 1962.

TENDERS are invited for the SUPPLY and DELIVERY of the FOLLOWING MATERIALS and SERVICES for the year ending 31st December, 1962:

- (1) Coated Macadam; (2) Granite Chippings; (3) Refined Tar and Bituminous Compounds and Emulsions; (4) Kerbs and Paving Slabs; (5) River Ballast, Sand and Shingle; (6) Sanitary Supplies and Cleansing Materials; (7) Chlorine Gas and Liquid Sulphur Dioxide; (8) Stoneware Pipes; (9) Roadmen's Tools and Brushes; (10) Dustbins and Waste Food Bins; (11) Lorry Hire; (12) Window Cleaning; (13) Decorative Materials and Chain Link Fencing; (14) Electric Lamps; (15) Petrol, Oils and Greases; (17) Cleaning Street Gutters; (18) Protective Clothing; (19) Builders' Materials; (20) Coal and Coke; (21) Electric Fittings and Cable; (22) Towel Washing and Wrapping, and General Laundering; (23) Garden Materials.

Conditions of Contract, Schedules and Forms of Tender may be obtained from the Borough Engineer, Kipling Building, Alma Road, Windsor, upon receipt of a stamped addressed foolscap envelope. State Schedule numbers required.

Tenders, sealed in the official envelope provided, to be endorsed "Tender for Items ——" (as the case may be), and bearing no other mark, name or indication of sender, must be received by me not later than Noon on SATURDAY, 4th November, 1961.

The Council do not bind itself to accept the lowest or any Tender.

G. N. WALDRAM,

Municipal Offices,

Kipling Building,

Windsor.

September, 1961.

Town Clerk.

## BOROUGH OF ASHTON-UNDER-LYNE.

## CENTRAL PURCHASING.

TENDERS are invited for the SUPPLY of the FOLLOWING for the various departments of the Corporation:

- (1) Uniform Clothing.
- (2) Protective Clothing.

Applications for particulars of requirements, etc., of each of the above, including stamped and addressed envelope, to be sent to me.

Tenders to be delivered to me, in plain sealed envelopes, by FRIDAY, 20th October, 1961.

The Council do not bind itself to accept the lowest or any Tender, and reserves the right to accept part only of a Tender.

G. A. MALONE,

Town Hall,

Ashton-under-Lyne.

Town Clerk.

## BOROUGH OF REDCAR.

## LAKES NEIGHBOURHOOD CENTRE—FIRST PHASE.

## CONSTRUCTION OF 24 SHOPS AND MAISONNETTES WITH GARAGES AND ANCILLARY BUILDINGS.

The BOROUGH COUNCIL invites building contractors who are willing to TENDER for the ABOVE WORK, to submit their names. The Contract will consist of 24 Shops with Maisonnettes and Elevated Walkways over, and 64 Garages and Stores. Tenders will be invited early in 1962.

From the names submitted, a panel of contractors will be chosen who will subsequently be provided with Bills of Quantities. The Architects for the work are MESSRS. FREDERICK GIBBERD, 19 The Row, Stone Cross, Harlow, Essex.

Contractors' applications should be sent to the undersigned not later than FRIDAY, 20th October, 1961.

HUGH CALDWELL,

Municipal Buildings,

Redcar, Yorks.

October, 1961.

Town Clerk.

## BOROUGH OF DUKINFIELD.

## ERECTION OF 200 HOMEVILLE TRADITIONAL DWELLINGS, ROADS, FOOTPATHS AND MAIN SEWERS—YEW TREE LANE ESTATE.

Building and civil engineering contractors are invited to submit TENDERS for the ABOVE DWELLINGS, ROADS, FOOTPATHS, SEWERS, STREET LIGHTING, etc.

Any contractor may submit a Tender for either the Dwellings, or Roads and Sewers, etc., or the whole of the works.

The Dwellings comprise: 18 One-bedroom Bungalows, 84 One-bedroom Flats, 40 Two-bedroom Flats, 38 Three-bedroom Houses, 16 Units—Corner Blocks, 4 Shops and Flats.

Desirous of tendering may obtain from the Housing Manager Drawings, Bills of Quantities, Conditions of Contract (fixed-price lump sum) upon payment of a deposit of £3 3s., which will be refunded on submission of a bona-fide Tender and the return of the documents by First Post, MONDAY, 30th October, 1961, in the envelope provided for the purpose.

The Council do not bind themselves to accept the lowest or any Tender.

DOUGLAS W. YATES,

Town Hall,

Dukinfield, Ches.

20th September, 1961.

Town Clerk.

## WORTLEY RURAL DISTRICT COUNCIL.

## ERECTION OF 54 TRADITIONAL DWELLINGS AT PIECE END, HIGH GREEN, SHEFFIELD.

## FIXED-PRICE TENDER.

TENDERS are invited for the ERECTION of 23 BLOCKS OF HOUSES and FOUR BLOCKS OF BUNGALOWS in Traditional Construction on the ABOVE SITE.

Specifications, Bills of Quantities for Substructure and External Works, Plans, and Form of Tender may be obtained from ARTHUR WIKLEY, M.I.Mun.E., M.I.H.E., M.R.S.H., on payment of a deposit of £5 which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Sealed Tenders, in the endorsed envelope provided, must be received by the undersigned not later than 12 Noon on THURSDAY, 2nd November, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

ADRIAN M. KELLY,

Council Offices,

Grenoside,

Sheffield.

Clerk of the Council.



## CONTRACTS

## COUNTY OF KINCARDINE.

LOCH LEE WATER SUPPLY SCHEME.

DISTRIBUTION PIPING—PHASE I—CONTRACT NO. 5.

6IN. DIA. PIPE FROM AUCHCAIRNIE TO BLACKIEMUIR, ETC.  
4IN. DIA. PIPE FROM WOODMYRE TO FETTERCAIRN AND HUNTERS HILL TANK.

KINCARDINE COUNTY COUNCIL invite TENDERS for EXCAVATING and LAYING and JOINTING about 6,300 yd. of 6in., 5,500 yd. of 4in., and 1,500 yd. of 3in. dia. ASBESTOS-CEMENT PIPES, and for the CONSTRUCTION of a REINFORCED CONCRETE TANK of 75,000 gallons capacity at HUNTERS HILL, with relative works.

Plans may be seen at the Office of the County Sanitary Inspector, The Briers, Stonehaven, or at the Office of the Engineers, MESSRS. CROUCH AND HOGG, 18 Woodside Crescent, Glasgow, C.3, from the latter of whom copies of tender documents may be obtained on receipt of a bona-fide Tender of £5, returnable on receipt of the tender documents. A representative of the Engineers will meet intending tenderers on Monday, 9th October, at 2 p.m. Sealed Tenders, marked "LLO—Contract No. 5," must be delivered to the COUNTY CLERK, 23 Evans Street, Stonehaven, by Noon on MONDAY, 30th October, 1961.

## MIDDLESEX COUNTY COUNCIL.

EAST MIDDLESEX MAIN DRAINAGE.

CONTRACT NO. E.M.D.9.

FIRM-PRICE TENDERS are invited for the ERECTION of 8 SEMI-DETACHED HOUSES, 15 TERRACE HOUSES, 1 BLOCK OF 4 FLATS, and Road-works and Sewerage in connection therewith, at PICKETTS LOCK LANE, Edmonton, N.9.

Tender documents will be available on 9th October, 1961, from the Consulting Engineers, J. D. AND D. M. WATSON, M.M.I.C.E., 67 Tufton Street, Westminster, S.W.1, upon payment of a deposit of Ten Guineas which will be returned on receipt of a bona-fide Tender and the return of all documents. Cheques should be made payable to the Middlesex County Council.

The Council does not bind itself to accept the lowest or any Tender.  
Tenders must be delivered in a plain package endorsed "Tender for Contract No. E.M.D.9." and delivered to the undersigned by Noon on MONDAY, 6th November, 1961.KENNETH GOODACRE,  
The Clerk of the County Council.County Council of Middlesex,  
Guildhall,  
Westminster, S.W.1.

## METROPOLITAN BOROUGH OF GREENWICH.

164 DWELLINGS—HADDO STREET.

Applications are invited from those willing to TENDER for the ERECTION of 94 FLATS and MAISONNETTES in Four-storey Blocks, and 70 FLATS in one 18-storey Block, on the Haddo Street Site, Greenwich, S.E.10.  
Plans may be inspected during normal working hours at the Office of the Borough Engineer and Surveyor.  
Applicants should give details of contracts recently undertaken, particularly any comprising tall blocks of flats.

Selected applicants will be notified by post, and will be supplied with Bills of Quantities and other documents required to enable them to tender.

Tenderers will be required to sign, or refuse to sign, a certificate declaring that they are not parties to any scheme or arrangement with other tenderers in respect of the amount of, or the adjustment of, their Tender.

Applications, addressed to the undersigned, are to be received by First Post, FRIDAY, 20th October, 1961.

G. C. TURK,  
Town Clerk.Town Hall,  
Greenwich, S.E.10.  
September, 1961.

## BOROUGH OF KEIGHLEY.

(A) SOUTHFIELD AVENUE, RIDDLESDEN (LENGTH 163YD. APPROX.).  
(B) SOUTHFIELD MOUNT, RIDDLESDEN (LENGTH 72YD. APPROX.).

PRIVATE STREET WORKS.

TENDERS are invited for the MAKING-UP of SOUTHFIELD AVENUE and SOUTHFIELD MOUNT with a Tarmacadam Carriageway, Flagged Footpaths. Drawings and General Conditions of Contract may be seen at the Borough Engineer's Office, College Street, Keighley, during normal office hours. Specification and Bills of Quantities, which must be returned fully priced with the Form of Tender, will be forwarded on application to the Borough Engineer. Sealed Tenders, on the official forms, and in the envelopes provided for the purpose, and endorsed "Southfield Avenue and Southfield Mount P.S.W.," must be delivered to the undersigned not later than 10 a.m. on MONDAY, 16th October, 1961.  
The Council do not bind themselves to accept the lowest or any Tender.J. A. CAESAR,  
Town Clerk.Town Hall,  
Keighley.

## BOROUGH OF ALTRINCHAM.

CONSTRUCTION OF ASPHALT PADDLING POOL—STAMFORD PARK.

TENDERS are invited from contractors who have had experience of similar work for the CONSTRUCTION of a PADDLING POOL in Hot Rolled and Mastic Asphalt, 80ft. x 30ft., together with ancillary works.

Plans, General Conditions, Specification and Bill of Quantities and Form of Tender can be obtained from the Office of the Borough Surveyor upon payment of a deposit of Two Guineas made payable to the Borough Treasurer.

Tenders must be enclosed in a plain sealed envelope endorsed "Paddling Pool," and delivered to the undersigned not later than 12 Noon on MONDAY, 16th October, 1961.

The Council does not bind itself to accept the lowest or any Tender.

E. GRAHAM THOMAS,  
Town Clerk.Town Hall,  
Altrincham,  
September, 1961.

## CONTRACTS

## COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE.

TENDERS are invited for the DISMANTLING of a SINGLE WEST RIDING CLASSROOM UNIT at SHIPLEY CRAG ROAD JUNIOR SCHOOL, BREAKING-UP FOUNDATIONS, and REINSTATING PLAYGROUND, and RE-ERECTION of the STRUCTURE at BAILDON GREENCLIFFE PRIMARY SCHOOL, including Forming a New Base, together with ancillary works.

Plans and Specification are lying open for inspection at the Office of the Divisional Architect, Salisbury Buildings, Albert Street, Harrogate, to whom applications to tender must be addressed.  
Sealed Tenders must be addressed to me, the undersigned, and received at Room 3, County Hall, Wakefield, not later than 9 a.m. on TUESDAY, the 31st October, 1961.BERNARD KENYON,  
Clerk of the County Council.

## BOROUGH OF RUGBY.

REFUSE COLLECTION VEHICLE.

TENDERS are invited for the SUPPLY of One REFUSE COLLECTION VEHICLE of the fore-and-aft tipping or dual-tip type, 25 cu. yd. capacity.

Forms of Tender and further particulars can be obtained from the Borough Surveyor, Town Hall, Rugby. Tenders, in the envelopes provided, but with no name or mark to indicate the sender, must be delivered to the undersigned not later than First Post on 17th OCTOBER, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

T. L. DUFFY,  
Town Clerk.

## BOROUGH OF YEovil.

CONSTRUCTION OF 12IN. SOIL SEWER—WEST HENDFORD.

Applications are invited from experienced contractors who wish to submit a TENDER for the ABOVE-MENTIONED WORK.

Applicants must submit their names to the undersigned not later than FRIDAY, 13th October, 1961, giving the names of Authorities for whom similar work has been carried out. Contractors invited to tender will receive the necessary documents and be notified of the last date for receipt of tenders.

The work comprises the laying of approx. 370 lin. yd. of Sewer, with Manholes and incidental works, and includes a crossing under the railway.

A. HEAL, M.I.Mun.E.,  
Borough Surveyor.Municipal Offices,  
Yeovil.

## BOROUGH OF CLETHORPES.

48IN. DIA. CONCRETE CULVERT—ROAD A.1098.

TENDERS are invited for the SUPPLY and LAYING of approx. 60 lin. yd. of 48in. dia. R.C. PIPES, including Excavation and incidental works, at the GOOSEPADDLE DRAIN, TAYLOR'S AVENUE.

The Specification, Bills of Quantities and Form of Tender may be obtained, and Plans and General Conditions of Contract inspected, at the Office of the Borough Engineer, A. B. COOPER, A.M.Inst.C.E., Council House, Clethorpes.

Tenders, in the official envelopes provided, must be returned to the undersigned not later than Noon on MONDAY, 16th October, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

G. SUTCLIFFE,  
Town Clerk.Council House,  
Clethorpes.

21st September, 1961.

## HAZEL GROVE AND BRAMHALL URBAN DISTRICT COUNCIL.

STREET IMPROVEMENT WORKS.

TENDERS are invited for the FOLLOWING WORKS:  
(1) Approx. 1,300 sq. yd. of Retagging and 750 lin. yd. of Rekerbing in Argyle Street, Lever Street and Cooke Street, Hazel Grove, including Concrete Crossings and incidental works.  
(2) Surfacing with Hot Rolled Asphalt in Argyle Street, Lever Street and Cooke Street, Hazel Grove, including incidental and remedial works. The area to be surfaced is approx. 2,800 sq. yd.

Bills of Quantities, Specification of Works and Form of Tender can be obtained on application to the Engineer and Surveyor at The Council House, Hazel Grove, near Stockport.

Completed Tenders, in plain sealed envelopes endorsed (1) "Footpath Works—Hazel Grove," and (2) "Street Works—Hazel Grove," must be received by the CLERK at The Council House, Hazel Grove, near Stockport, not later than Noon on TUESDAY, 17th October, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

F. G. SUTHERLAND,  
Clerk of the Council.Council Offices,  
Pippbrook.Dorking, Surrey,  
September, 1961.

## MERE AND TISBURY RURAL DISTRICT COUNCIL.

ERECTION OF PUBLIC CONVENIENCES.

The above Council invite TENDERS on a Fixed-price Basis for the ERECTION OF PUBLIC CONVENIENCES at the CAR PARK, SALISBURY STREET, Mere.

Contractors desirous of tendering are requested to apply to the undersigned for Tender documents and enclose a cheque for Two Guineas.  
Tenders must reach the undersigned not later than the 18th OCTOBER, 1961.

The Council does not bind itself to accept the lowest or any Tender.

M. E. BARRETT,  
Clerk of the Council.Council Offices,  
Mere.Warminster, Wilts.  
25th September, 1961.

## CONTRACTS

## WEST PAKISTAN WATER AND POWER DEVELOPMENT AUTHORITY.

INDUS BASIN PROJECT.

ADVANCE NOTICE OF THE INTENT TO INVITE TENDERS FOR THE CONSTRUCTION OF CANALS AND APPURTENANT WORKS.

The above Authority advertised in December, 1960, regarding the CONSTRUCTION of a number of large CANALS in West Pakistan. Their construction will be financed through the Indus Basing Development Fund, the operation of which will be administered by the International Bank for Reconstruction and Development (World Bank).

The Authority plans to call for two separate construction Tenders on the previously advertised Sidhnai-Mailsi-Bahawal Link Canal instead of a single Tender as previously contemplated. One Tender will be called for the Sidhnai-Mailsi portion of the canal, and a second Tender will be called for the Mailsi-Bahawal portion. All contractors who have made previous application and who have been prequalified to receive invitations to tender on the Sidhnai-Mailsi-Bahawal Link Canal will be sent invitations to tender on both the Sidhnai-Mailsi Link Canal and the Mailsi-Bahawal Link Canal. No further request or application from such prequalified contractors will be necessary.

In view of the above change, it has been decided that additional contractors not already prequalified by the Authority will be permitted to submit information of their qualifications for undertaking the proposed construction of the Mailsi-Bahawal Link Canal in application for prequalification.

The Mailsi-Bahawal Canal will have a length of 13 miles. It will require the excavation of about 4.1 million cu. yd. of earth, compaction of 1.7 million cu. yd. of embankment, and the construction of 11 structures such as regulators, bridges and aqueducts. The capacity of the canal will be 3,900 cu. ft. per second, and it will be brick-lined over most of its length.

The Authority plans to call for Tenders for the construction of the Mailsi-Bahawal Link early in 1962. Only contractors who have been prequalified by the Authority will be invited to submit tenders for this purpose. Contractors who wish their names to be included on a list to receive the document for prequalification are requested to submit the following information on or before 15th NOVEMBER, 1961.

The Authority's Consultants, TIPTON AND KALMBACH, INC., at Post Office Box 588, Lahore, West Pakistan, with a copy to their Office at 831 14th Street, Denver, 2, Colorado, U.S.A.:

(1) Name of company or firm with full address.  
(2) Name and title of person to whom future correspondence should be directed.

The interested contractors will then be furnished with a document describing the work and setting forth the information required from them by the Authority in order to evaluate their qualifications for undertaking the proposed canal construction.

PROJECT DIRECTOR (LINKS).  
West Pakistan Water and Power Development Authority.

## BOROUGH OF DAGENHAM.

TRANSPORT SERVICE EQUIPMENT—NEW TRANSPORT WORKSHOPS.

TENDERS for this SUB-CONTRACT, on forms obtainable from the Borough Engineer and Surveyor, must be returned to me by 14th OCTOBER, 1961.

KEITH LAUDER,  
Town Clerk.Civic Centre,  
Dagenham.

## BOROUGH OF DAGENHAM.

RESURFACING WHALEBONE LANE BRIDGE (WEST SIDE).

TENDERS for this CONTRACT, on forms obtainable from the Borough Engineer and Surveyor, must be returned to me by 14th OCTOBER, 1961.

KEITH LAUDER,  
Town Clerk.Civic Centre,  
Dagenham.

## URBAN DISTRICT COUNCIL OF COULSDON AND PURLEY.

EXTENSION TO PURLEY CAR PARK.

TENDERS are invited for the ABOVE.

Bill of Quantities, Specification and Form of Tender, prepared by H. M. COLLINS, A.M.I.C.E., may be obtained upon deposit of £3 3s, which will be refunded upon receipt of a bona-fide Tender. Plans and Conditions of Contract may be inspected at the Council Offices.

Sealed Tenders, in the envelope provided, and endorsed "Purley Car Park Extension," must be delivered to the undersigned not later than First Post on FRIDAY, 20th October, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

ERIC F. J. FELIX,  
Clerk of the Council.Council Offices,  
Purley, Surrey.

SHUTTERING SUB-CONTRACTS WANTED, Labour and Material or Labour only, London and the Midlands areas.—Apply: CONVEY BROS., LTD., 39 Belmont Street, London, N.W.1, Gulliver 7794.

MILLIONS OF POUNDS' worth of work SECURED BY TENDERS PREPARED BY Britain's Top Private ESTIMATOR. Also help and advice on site organisation, large or small contracts, Country-wide coverage.—Consult: R. J. CARR, 75 Leadenhall Street, London, E.C.3. Telephone: Avenue 9676-1120.

For Contracts received too late for classification see page 1549

## APPOINTMENTS VACANT

## URBAN DISTRICT COUNCIL OF BASILDON.

(Population 90,000. 27,000 acres. Rapidly developing district.)

CLERK OF WORKS—ENGINEERING (TEMPORARY), A.P.T. I (£645-£815 P.A.).

Experience needed in the supervision of engineering works, particularly roads and sewers. Employment for at least two years, but probably much longer duration.

Casual user car allowance, now 9d. per mile. Housing and conditional payment of removal expenses considered.

Particulars and forms from ENGINEER AND SURVEYOR, 88 Town Square, Basildon. Closing 16th OCTOBER.



## APPOINTMENTS VACANT

## MIDDLESEX COUNTY COUNCIL.

## COUNTY ENGINEER'S DEPARTMENT.

TECHNICAL ASSISTANT, A.P.T. III (£1,005-£1,185) REQUIRED for connection with control of development affecting county roads under Town and Country Planning Act, 1947, and general liaison with County Planning Department.

Should preferably have experience of such work and/or procedure under Town Planning legislation. Prescribed conditions.

Application Forms from COUNTY ENGINEER, 20 Vauxhall Bridge Road, S.W.1, returnable immediately. Quote H.433 C.J.

## COUNTY BOROUGH OF WEST HAM.

BONUS MEASURING ASSISTANT REQUIRED, with at least five years' approved experience in measuring building works in all trades for incentive bonus. Salary within the range of £760-£825 p.a. plus London Allowance £25-£40 p.a., according to age. Applications in writing, giving full particulars of experience, age, etc., to BOROUGH ENGINEER AND SURVEYOR, West Ham Town Hall, Stratford, E.15, immediately.

## BOROUGH OF POOLE.

## BOROUGH ENGINEER'S DEPARTMENT.

(A) ASSISTANT ENGINEER, A.P.T. II-III (£815-£1,140 p.a.).

(B) DRAUGHTSMAN, Misc. V (£685-£760).

Applications are invited for the ABOVE APPOINTMENTS, the starting point within the grade will be determined upon the ability of the applicant. For appointment (A), applicants should have appropriate professional qualifications and experience in road construction and/or sewerage schemes.

For appointment (B), applicants should be neat and expeditious draughtsmen.

Application Forms, from the Borough Engineer, Municipal Buildings, Poole, to be returned by the 9th OCTOBER, 1961.

J. G. HILLIER,

Town Clerk.

## BOROUGH OF TOTTENHAM.

APPLICATIONS are invited for an ESTABLISHED POST of CIVIL ENGINEERING ASSISTANT in the Borough Engineer and Surveyor's Department, A.P.T. Grade II (£815 to £960 p.a. plus London Weighting allowance). Commencing salary according to experience and ability.

Applicants must have completed professional training and have passed the Intermediate, or equivalent. Examination of an appropriate professional body. Application Form and Conditions of Appointment, which should be returned not later than the 14th OCTOBER, 1961, are obtainable from the Borough Engineer and Surveyor (C1), Town Hall, Tottenham, N.15.

M. LINDSAY TAYLOR,

Town Clerk.

## BOROUGH OF LYTHAM ST. ANNES.

## APPOINTMENT OF ENGINEERING ASSISTANTS.

APPLICATIONS are invited for the APPOINTMENT of GENERAL ENGINEERING ASSISTANTS on Grade A.P.T. I (£645-£815) and A.P.T. II (£815-£960).

Applicants should have been trained in a Municipal Engineer's Office, and applicants for the Grade II appointment should have passed the Part I Examination of the Institution of Municipal Engineers, or an equivalent. The appointments will be subject to the Provisions of the Local Government Superannuation Act, and to the passing of a medical examination. The Council will be prepared, if necessary, to assist one of the successful applicants with housing accommodation.

Applications, stating age, education, and details of experience, accompanied by copies of two recent testimonials, should be forwarded to the undersigned not later than SATURDAY, 14th OCTOBER, 1961.

R. A. CORK,

Town Clerk.

## LINCOLNSHIRE RIVER BOARD.

## APPOINTMENT OF ASSISTANT ENGINEERS (TWO).

APPLICATIONS are invited for the ABOVE-MENTIONED PERMANENT APPOINTMENTS at the Board's Head Office, at salary in accordance with Grade A.P.T. II (£815-£960 p.a.), or Grade A.P.T. III (£960-£1,140 p.a.), dependent upon experience, with prospects of promotion to Grade A.P.T. IV (£1,140-£1,310 p.a.).

Applicants must have passed Parts I and II of the Associate Membership Examination of the Institution of Civil Engineers, or have gained exemption therefrom.

In the first instance, the persons appointed will be engaged on structural and hydraulic designs for an extensive programme of capital works. A 5-day week is in operation.

The appointments are subject to the Local Government Superannuation Act, and the National Joint Council Conditions of Service.

Applications, stating age, qualifications and experience, and the names and addresses of two referees, should be sent to the undersigned to arrive not later than Noon on MONDAY, the 16th October, 1961.

G. E. PHILLIPS,

Chief of the Board.

## HUDDERSFIELD CORPORATION

## WATERWORKS UNDERTAKING.

## APPOINTMENT OF ENGINEER AND MANAGER.

The Huddersfield County Borough Council invite APPLICATIONS for the APPOINTMENT OF ENGINEER AND MANAGER of the Waterworks Undertaking at a salary of £2,465 p.a. rising by three annual increments of £90 and one of £100 to £2,835 per annum.

Applicants must be qualified Civil and Water Engineers.

The person appointed will be required to pass a medical examination and devote the whole of his time to the services of the Council. The appointment is superannuable.

Applications must be made on the official form, to be obtained from me, and to which are attached the terms and conditions of the appointment, and must be addressed to, and received by, me not later than the 16th OCTOBER, 1961.

Canvassing or any communication to a member of the Council, either directly or indirectly, is prohibited and will be a disqualification.

HARRY BANN,

Town Clerk.

Town Hall,  
Huddersfield.

## APPOINTMENTS VACANT

## MONTGOMERYSHIRE COUNTY COUNCIL.

## HIGHWAYS DEPARTMENT.

APPLICATIONS are invited for the FOLLOWING:

(a) Engineering Assistants on Grades A.P.T. II (£815-£960) and A.P.T. III (£960-£1,140), according to qualifications and experience.

(b) District Surveyor on Grade A.P.T. III (£960-£1,140).

Particulars and Forms of Application may be obtained from the undersigned.

E. WHITE,

Clerk of the County Council.

## COUNTY OFFICES, WELSHPOOL.

September, 1961.

## EAST SUFFOLK COUNTY COUNCIL.

## RESIDENT ENGINEER (TRUNK ROADS)—

£1,310 P.A.

Appointment will be temporary and subject to satisfactory medical assessment and N.J.C. Conditions of Service. Travelling allowance for 10-h.p. car. Removal expenses and £25 settling-in allowance available to householders appointed from another local authority.

Applications, giving details of age, education, qualifications, experience, and other relevant details, with names of two referees, should be delivered to the COUNTY SURVEYOR, County Hall, Ipswich, not later than 9th OCTOBER, 1961.

## COUNTY BOROUGH OF SUNDERLAND.

## APPOINTMENT OF LAND SURVEYORS.

APPLICATIONS are invited for LAND SURVEYORS on Salary Grade A.P.T. II (£815-£960), on the staff of the Borough Engineer and Surveyor.

Applicants must be able to undertake detailed surveys, including levelling and contouring required in connection with proposed road improvement and sewer schemes, redevelopment projects and development of lands for housing purposes. They should also be thoroughly competent Draughtsmen.

The posts are permanent and superannuable, and the appointments are subject to the passing of a medical examination. Consideration will be given to a payment towards removal expenses, to a lodging allowance for the applicant for a limited period, and to a generous mortgage advance in respect of house purchase.

Applications, suitably endorsed, stating qualifications and details of experience, together with two testimonials, must be addressed to and received by the Office, Town Hall, not later than 17th OCTOBER, 1961.

G. S. MCINTIRE,

Town Clerk.

## BOROUGH OF LOWESTOFT.

## APPLICATIONS are invited for the APPOINTMENT

of TWO SENIOR ENGINEERING ASSISTANTS on the establishment of the Borough Engineer and Surveyor's Department.

Salary A.P.T. Scale IV-V (£1,140 to £1,480 p.a.), at a commencing salary according to experience and qualifications.

Applicants must be Corporate Members of the Institution of Civil Engineers and/or Municipal Engineers, or hold equivalent professional qualifications.

The posts are superannuable, subject to N.J.C. Conditions of Service, a satisfactory medical examination, and to one month's notice on either side.

Housing accommodation is available in approved cases.

Applications, stating age, qualifications, present and past appointments, experience, etc., together with names of two referees, to be sent in plain sealed envelopes, endorsed "Senior Engineering Assistant," to reach the undersigned not later than THURSDAY, 18th October, 1961.

Candidates for the appointment shall, when making application, disclose whether they are related to any member of, or the holder of any senior office under, the Council.

Canvassing in any form will disqualify.

F. B. NUNNEY,

Town Clerk.

## TOWN HALL, LOWESTOFT.

22nd September, 1961.

## BOROUGH OF TOTTENHAM.

## APPLICATIONS are invited for an ESTABLISHED

POST of ESTIMATING AND COSTING SURVEYOR in the Borough Engineer and Surveyor's Department.

A.P.T. Grade II (£815 to £960 p.a. plus London Weighting Allowance). Commencing salary according to experience and ability.

Application Form and Conditions of Appointment, which should be returned not later than 14th OCTOBER, 1961, are obtainable from the Borough Engineer and Surveyor (C1), Town Hall, Tottenham, N.15.

M. LINDSAY TAYLOR,

Town Clerk.

## CITY OF NOTTINGHAM

## WATER DEPARTMENT.

## APPOINTMENT OF CLERK OF WORKS

(PERMANENT).

APPLICATIONS are invited from persons with a good experience of reinforced concrete work, and preferably of water-taining structures, for the PERMANENT, PENSIONABLE APPOINTMENT of CLERK OF WORKS. Salary, according to experience, in Grade A.P.T. II, viz., £815-£960.

The successful candidate should possess a car, in respect of which a casual user allowance will be paid.

Applications, with names of two persons to whom reference may be made, to Engineer and General Manager, Water Department, Castle Boulevard, Nottingham, not later than 14th OCTOBER.

T. J. OWEN,

Town Clerk.

## The Guildhall, Nottingham.

## NORTH WEST METROPOLITAN

## REGIONAL HOSPITAL BOARD.

ASSISTANT CLERK OF WORKS REQUIRED to assist in supervision of new Welwyn Hatfield Hospital, Hatfield, Herts. Applicants must have experience of reinforced concrete work. Appointment expected to last for at least one year. Salary within Scale £800-£1,050.

Consulting Structural Engineers are LESLIE TURNER AND PARTNERS.

Apply, giving age, qualifications and experience, with the names and addresses of two referees (preferably employed by the North West Metropolitan Regional Hospital Board, 40 Eastbourne Terrace, W.2, by 7th OCTOBER, quoting Ref. 985.

## APPOINTMENTS VACANT

## MALAYA.

## CAMERON HIGHLANDS HYDRO-ELECTRIC

## SCHEME.

MECHANICAL INSPECTOR REQUIRED by consulting engineers for site construction staff. Mechanical Inspector to oversee the erection and setting to work of four 37,000-h.p. Pelton Waterwheels, Governors, High-head Valves, Welded Pipes, and auxiliaries.

The work would be entirely in the field, and under the directions of the Resident Engineer (M. and E.). Applicants should have sound experience of work of a like character.

The appointment would be for approx. two years, with provision for extension, commencing in the latter part of this year. Passages provided: free medical attention; transport allowance; concessional housing. Salary £1,900 p.a.

Preference will be given to single man, or married man prepared to fulfil the engagement without wife or family.

Applications should be made in writing within 14 days of this advertisement, plainly marked "Mechanical Inspector," giving full details of qualifications, previous experience, age, marital status, etc., to PRECE, CARDEW AND RIDER, Consulting Engineers, 8, 10 and 12 Queen Anne's Gate, London, S.W.1.

## TANGANYIKA.

## MINISTRY OF AGRICULTURE.

## EXECUTIVE ENGINEERS.

Duties: To carry out field investigations and surveys needed in connection with rural water supplies and irrigation works. To prepare designs and carry out construction.

Qualifications: Candidates, preferably between 25 and 40, must have a University Degree, or equivalent, recognised as granting exemption from Parts I and II of the Final Examination of the Institution of Civil Engineers, with at least four years' experience in the design and construction of civil engineering works, particularly in connection with water supplies.

Terms of Appointment: Contract for one tour of 21-27 months.

Total Emoluments (including gratuity) in Scale £1,582-£3,060 p.a.

Free passages. Generous leave. Education Allowance, £150 to £200 p.a. for each child.

Apply DIRECTOR OF RECRUITMENT, Department of Technical Co-operation, Carlton House Terrace, London, S.W.1, quoting BCD.140.8.02.D14, and giving full name, age, and brief details of qualifications and experience.

## MIDDLESEX COUNTY COUNCIL.

## RIVER DEVELOPMENT SCHEMES.

JUNIOR ENGINEERING ASSISTANTS for design, survey, and site works.

Salary range A.P.T. I II (£645-£960 plus London Weighting, varying from £15-£40).

Prescribed conditions.

Forms may be obtained from the COUNTY ENGINEER, Middlesex House, Vauxhall Bridge Road, Westminster, S.W.1. Quote H.432.

## HERTFORDSHIRE COUNTY COUNCIL.

## STEVENAGE AND BALDOCK BY-PASSES.

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS to the TEMPORARY STAFF:

(a) Senior Road Engineer—Salary £1,445 p.a.

(b) Road Engineer—Salary £1,385 p.a.

(c) Junior Engineer—Salary £1,165 p.a.

Consideration will be given to the payment of temporary lodging allowance and return railway fare home, in appropriate cases.

The persons appointed will, in the first instance, be engaged upon the supervision of the construction works on Stevenage By-pass now in progress, which is expected to be substantially completed in six months' time. They will then be employed upon the design of Baldock By-pass—a new road, some 3 miles long, which will be a continuation of the Stevenage By-pass.

Candidates should be qualified, and have had experience upon road design and construction.

Apply at once, giving details of age, qualifications and experience, together with the names of two referees, to COUNTY SURVEYOR, County Hall, Hertford.

CLERK OF WORKS, with experience of reinforced concrete and steel structures and foundation works, REQUIRED for project in Kendal, Westmorland. Write, giving particulars of experience, and salary required, to Box V.4870, "The Contract Journal."

MOBILE FOREMAN REQUIRED by company specialising in road and drainage, mainly in the Home Counties. Excellent opportunity for a good man to join a busy and happy medium-sized company where consideration is given to its employees.

Write full details of experience, wages required, and state whether car owner, to FARMILIE AND MCVIE, LTD., 10 High Street, Welwyn, Herts.

ENGINEERS, experienced in structures and road works, REQUIRED for contracts in London and the Home Counties.—Write, giving full details of experience, last three employers, and salary required, to Contracts Manager, FITZPATRICK AND SON (CONTRACTORS), LTD., 455 Old Ford Road, London, E.3.

## QUANTITY SURVEYORS

Experienced in standard method of measurements in large civil engineering works. REQUIRED by Messrs IMPREGILO, main contractors for the Volta River Project, Ghana, and Rosieres Dam Project, Soudan. Salary from £2,000 to £2,400 per annum depending on qualifications, experience, and age for self and family; free married accommodation at site, free medical aid.—Apply, in English, to:

IMPREGILO, Via G. Negri 4, Milan (Italy).

## ASSISTANT SURVEYOR / DRAUGHTSMAN

REQUIRED for a quiet Mayfair property company. Age 25/30. Applicants must be capable of producing drawings and specifications for new and existing work; also have sound knowledge of building construction. Write full details to Box V.4883, "The Contract Journal."

The contractors' tools division of a large sectional building manufacturers REQUIRE a SALE ASSISTANT. The successful applicant will be required to assist the Manager in all phases of sales procedure, and should have a pleasing telephone manner. Experience in this field an advantage, but not essential. Excellent prospects and salary to the right man. Apply in strictest confidence to the Managing Director, HARDY AND SONS, LTD., Horton Road, West Drayton, Middlesex.

## APPOINTMENTS VACANT

**YOUNG** experienced ESTIMATOR REQUIRED for South West Lancashire. Salary commensurate with experience. Please send full details of experience to Box V.4812, "The Contract Journal."

**SENIOR GENERAL FOREMAN** REQUIRED BY THE MITCHELL CONSTRUCTION CO., LTD., for appointment on the 1st November at Drakelow, C. Power Station, superstructure contract. The successful applicant will be placed on the monthly paid staff and will be eligible to join the superannuation scheme after one year's satisfactory service. It is expected after he will spend five years at Drakelow and after that he must be prepared for reappointment within the British Isles. Applicants must show that they have had considerable experience, and achieved above-average results in building and civil engineering contracts valued at over £1m. while holding similar appointments. Applications must be made in writing, to General Manager, Civil Engineering Department, The Mitchell Construction Co., Ltd., Wharf Works, Peterborough.

## HUSSEY, EGAN AND PICKMERE, LTD.

A number of vacancies are available for SENIOR and JUNIOR ENGINEERS on contract sites in England and Wales. Permanent posts with attractive prospects. Apply, with details of education, training and experience.

HUSSEY, EGAN AND PICKMERE, LTD.,  
24 Calhoun Road, Edgbaston, Birmingham, 15.  
Telephone: Edgbaston 3661.

**ASSISTANT BUYER** REQUIRED, aged 25-35, by a firm of estate developers (flats, houses), with a view to early promotion. Must be fully experienced in all materials. Write in first instance to General Manager, LAWSON PARTNERS, 157 Victoria Street, S.W.1.

**WORKS MANAGER** REQUIRED by plant hire and contracting company. Situated in Middlesex. Essential thoroughly experienced in all types of contractors' plant machinery, excavators, Drott, dozers, compressors, etc. With strong personality to handle workshop and operator personnel. Four-figure salary and car provided. Write Box V.4872, "The Contract Journal."

**ROAD SURFACING** contractors REQUIRE SUPERVISOR for South of England. Must be able to control three-four road gangs, and prepare final accounts on work carried out. Write Box V.4874, "The Contract Journal."

**MANAGER**, 25-40 years old, REQUIRED for West African plant organisation. Man with knowledge of sales, service and office procedure preferred, although individual with basic mechanical and business knowledge would be considered for training in England before taking up overseas appointment. Write Box V.4865, "The Contract Journal."

## THOMAS FLETCHER AND CO., LTD.

**SENIOR CIVIL ENGINEER/AGENT** REQUIRED to control a number of medium-sized contracts in East Midlands. Experience in high-class R.C. work essential. Excellent prospects for man with drive and initiative. First-class salary, with participation in company bonus and superannuation schemes. Applications, in strictest confidence, stating age, experience and present salary, addressed to:

The Managing Director,  
THOMAS FLETCHER AND CO., LTD.,  
Forest Road, Mansfield.

**PLANT HIRE REPRESENTATIVE**.—A Midlands plant hire company with a large fleet of modern equipment, under enthusiastic control by men who are determined to steer the company to the very forefront, is about to spread its activities to South Wales. A REPRESENTATIVE who is seeking a permanent position and resides in the area with ready-made contacts, is REQUIRED to pioneer this field of expansion. The successful applicant must fit into the present organisation of keenness and determination, and be prepared to work hard to reap the obvious benefits of success. He will be given a full training, will be treated with the strictest confidence, stating age, full details of experience and past employers, and salary required, to Box V.4849, "The Contract Journal."

**DESIGNER/DRAUGHTSMAN** REQUIRED by manufacturers of contractors' plant South of London. Good position in expanding medium-sized company offered to young man familiar with site construction methods, who is keen to apply this knowledge to the development of all types of non-mechanical plant for contractors. Knowledge of welded fabrication an advantage but not essential. Write Box V.4871, "The Contract Journal."

**EXPANDING** precast concrete company, North West Area, REQUIRES WORKS GENERAL PRODUCTION FOREMAN to control all aspects of production, including fence posts, cast stone and exposed aggregate. Practical man with good organising ability and knowledge of all sections of the industry, capable of accepting responsibility. Write details of age, experience, and salary required, to Box V.4868, "The Contract Journal."

## ARCHITECTURAL DRAUGHTSMAN

Urgently REQUIRED by expanding firm of building contractors for work in connection with house designs and layouts. Excellent opportunity. Assistance with housing, if required. Full particulars of positions held, etc., to:

P. HASSALL, LTD.,  
134 Shelfeld Road, Drighfield, near Shelfeld.

**ENGINEER** REQUIRED for measuring civil engineering work, monthly valuations and final accounts. Experience essential. Salary by arrangement. Apply, in writing, to Civil Engineering Department, H. C. JAMES, LTD., 183 High Town Road, Luton, Beds.

**ESTIMATOR** REQUIRED for leading firm of flooring contractors in London. Good prospects. Salary according to age and experience. Reply, with full details, to Box V.4848, "The Contract Journal."

**GENERAL FOREMAN** REQUIRED for concrete works specialising in centrifugal spinning. Good salary, pension scheme. Applications, which will be treated in strict confidence, to Box V.4842, "The Contract Journal."

**SITE ENGINEER** REQUIRED for Oxford area, experienced in roads, sewers and reinforced concrete. Good prospects with expanding company. Write, stating full particulars, salary, etc., in confidence, to: WILLIAM T. NICHOLLS, LTD., C.E. Dept., Bristol Road, Gloucester.

## APPOINTMENTS VACANT

**EXPERIENCED ESTIMATOR** REQUIRED by civil engineering contractors with head office situated in Berkshire. Permanent and progressive post with group life and pension scheme in operation. Write in confidence, stating age, full details of experience, with names of past employers and salary required, to Box V.4803, "The Contract Journal."

**FITZPATRICK AND SON (CONTRACTORS), LTD.**, civil engineering contractors, have the following vacancies: (a) SITE CLERKS for road contracts within London area; (b) SENIOR SHORTHAND-TYPIST to take charge small correspondence section; (c) STORES MANAGER (plant, machinery and vehicles); (d) ASSISTANT BUYER, knowledge building and civil engineering, plant and materials preferred; (e) ACCOUNTS CLERK for credit control; (f) PURCHASE INVOICE CHECKER; (g) JUNIOR WAGES CLERK. (b) to (g) head office appointments. Age no obstacle. Non-contributory pension and life assurance scheme. Interviews can be arranged Saturday mornings and evenings. Apply 455 Old Ford Road, Bow, E.3. Tel.: ADV 2991.

**ASSISTANT PLANT MANAGER** REQUIRED by a plant hire firm on east side of London, with some knowledge of the hiring and sale of contractors' plant. Good opportunity for the right man with prospect of rapid advancement to Plant Manager. Write to Box V.4801, "The Contract Journal."

## SENIOR and JUNIOR ENGINEERS

REQUIRED for major civil engineering and building contracts in north west area. Please send full details of age, experience and position applied for, quoting Ref. SJE/M. to:

Personnel Officer,  
M. J. GLEESON (CONTRACTORS), LTD.,  
Haredon House, London Road, North Cheam, Surrey.

**CIVIL ENGINEERING SURVEYORS**, Senior and Junior, for surveys in various parts of the country. Apply: SITE SURVEY CO., London, S.E.3.

**ASSISTANT QUANTITY SURVEYOR** REQUIRED by major firm of building and civil engineering contractors, to operate on civil engineering contracts in the South Yorkshire area. This appointment will be permanent, with good salary and conditions and entry into superannuation scheme after 12 months' service. Applications, giving details of training and experience, will be treated in strict confidence, and should be addressed to: THE MITCHELL CONSTRUCTION CO., LTD., 'S' Dept., Wharf Works, Peterborough.

**£1,500 P.A. PLUS!** Can be yours if you are energetic, ambitious, experienced in the sales or service of industrial and allied equipment, and interested in becoming an INDUSTRIAL REPRESENTATIVE for a progressive tractor, agricultural and industrial machinery distributor. Preference will be given to the applicant with experience on the J.C.B., Fordson and County range of equipment. Car provided. Substantial commission in addition to basic salary and expenses. Non-contributory pension scheme, etc. Assistance with removal expenses, if required. Apply, in one handwriting, with full details in confidence, to Personnel Manager, PETERBOROUGH MOTORS, LTD., 27/39 New Road, Peterborough, Northants.

## SENIOR ESTIMATOR

REQUIRED for civil engineering division, with experience of tendering for major works, motorways, dams and heavy foundations. The vacancy occurs in the north west, and the person appointed will be based in Manchester. Permanent position, good salary and pension scheme. Please write, giving details of age and career to date, quoting Ref. SJE/M. to:

Personnel Officer,  
M. J. GLEESON (CONTRACTORS), LTD.,  
Haredon House, London Road, North Cheam, Surrey.

**AGENT/ENGINEER** REQUIRED, to supervise sewers and sewerage disposal works contract in Midlands area. Apply in writing, giving full details of experience. Appointment for interview will be made. Write Box V.4880, "The Contract Journal."

**SENIOR SALES REPRESENTATIVE** REQUIRED to operate in the Greater London area. Experience in coated macadam and roadstone sales essential. The post is permanent and pensionable. Company car provided. Applications, with full details of experience, etc., should be addressed to the Managing Director, ROADS RECONSTRUCTION, LTD., 10, Home, Somerset.

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**SERVICE ENGINEER**.—R. CRIPPS AND CO., LTD., International Construction Equipment Distributors for 22 counties, have a vacancy at their Nottingham branch for a FIELD SERVICE ENGINEER. Applications, from skilled men only, to Service Manager, R. Cripps and Co., Ltd., Triumph Road, Nottingham. Tel. 74235.

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**COSTAIN CONCRETE COMPANY** REQUIRE a PLANNING OFFICER at their offices in Dolphin Square, S.W.1. Candidates should preferably possess H.N.C. Building or equivalent, and must have had sound practical site experience in the building industry. A keen interest in planning as a method of management control rather than previous direct experience is required. Duties will entail assessing work content and preparing actual plans for specialised building contracts and the breakdown of these plans into short period work loads. Please apply initially to:

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### NORTH OF SCOTLAND HYDRO-ELECTRIC BOARD.

ALTNABREAC PEAT PROJECT—CAITHNESS.

OFFERS are invited for a 2,200-kW 11-kV Closed Circuit Gas Turbine GENERATING PLANT for peat or oil-firing, complete with Air Heater, Cooling Tower, Peat Pulverisers, Firing Fans, Peat Conveyors, etc., 11-kV Switchboard and Workshop Tools. Also Steel-framed Buildings housing the plant and workshop, and Bog Machinery, including 36in. gauge Railway, Locomotives and Wagons, Tractors, together with Attachments, for Mowing, Harrowing, Ridging and Harvesting Peat. Catalogue can be obtained on application to CHIEF ELECTRICAL AND MECHANICAL ENGINEER, 16 Rothsay Terrace, Edinburgh, 3.

## METROPOLITAN BOROUGH OF HAMPSHIRE.

### STREET LIGHTING LANTERNS.

The above Borough have for DISPOSAL approx. 150 B.T.H. Dillen and G.E.C. STREET LANTERNS. Inspection at the Depot, Lymington Road, N.W.6. Prices by 18th OCTOBER, 1961, to the BOROUGH ENGINEER (C.I.), Town Hall, Havant, N.W.5.

## FULHAM BOROUGH COUNCIL.

**For SALE**.—One 250-kW Steam driven GENERATOR (1940), A.C., 2-phase 200/230-Volts, complete with Exciter.

Three Weir's BOILER FEED PUMPS, output 2,500 to 3,500 gallons per minute.

Details and Tender Forms from BOROUGH ENGINEER AND SURVEYOR, Town Hall, S.W.6.

## CITY OF MANCHESTER.

The TRANSPORT COMMITTEE invite OFFERS for the PURCHASE OF REDUNDANT AND SCRAP MATERIALS.

Conditions and Forms of Offer obtainable from the GENERAL MANAGER, Corporation Transport Department, 55 Piccadilly, Manchester. Offers to be received by 10 a.m. on the 9th OCTOBER, 1961.

## WORKING URBAN DISTRICT COUNCIL.

OFFERS invited for Second-hand 1950-51 Fordson MULEDOZER, which can be inspected at Council's Depot, Camphill Road, West Byfleet. Offers, in writing, to be received by CLERK OF THE COUNCIL, Council Offices, Working, by 9th OCTOBER, 1961. The Council cannot give any guarantee as to condition of machine.

## SKEGNESS DISTRICT INTERNAL DRAINAGE BOARD.

MACHINERY AND PLANT FOR SALE BY TENDER.

**For SALE BY TENDER**, 10RB DRAGLINE, No. 19758, SVRHN Engine. Can be seen working. Apply to A. GOTT, Supervisor, Skegness District Internal Drainage Board, Court Bank, Skegness.

## SALE BY PRIVATE TREATY

**TRANSPORT DEPOT** in South Central Lincolnshire. Ideal for buses, lorries or packaging. Large shed, tarmac hardstandings, petrol pumps and a good house. Only £8,500. Details: PAUL E. CLIFFORD, AMBLER, Westminister Bank Chambers, Grantham.

## LAND AND PROPERTY

**FOR SALE, DEMOLITION CONTRACTORS' YARD**, or would suit plant hire or haulage contractor (accommodation for 40 lorries), with a large modern buslow, situated between Erith and Dartford, Kent. Write Box X.4900, "The Contract Journal."

**CONFIDENTIALLY OFFERED**.—Near Guildford, Surrey, GARAGE AND FILLING STATION (non-tied), with Haulage and Motor Engineering Business. Fine modern premises, also newly built three-bedroom residence and 1½ acres of useful land. Comprehensive range of vehicles and equipment. £27,000 freehold. Details: PAUL E. CLIFFORD, 48 Woodbridge Road, Guildford. Telephone 60042.

## DIVING

**REED AND MALLIK, LTD.**, Civil Engineering Contractors (Diving Division), Millford Manor, Salisbury, Wiltshire. Telephone 5141.

**FOR YOUR UNDERWATER WORK**, contact the FOLLOWING MEMBERS OF THE ASSOCIATION OF UNDERWATER CONTRACTORS:—

Conroy Lewis, Ltd., Southampton—Southampton 56578. Diving Specialists, Ltd., Dartford—Dartford 24139. Dockland Diving Engineers, Dagenham—Dagenham 3189.

Overseas Divers, Ltd., Whitby—Whitby 598. A. J. Parsloe, Brighton—Brighton 61228. Underwater Welders and Repairs, Ltd., Cardiff—Cardiff 29631.

Universal Divers, Ltd., Liverpool—Liverpool Cent. 4226. The Association of Underwater Contractors, London—Gerrard 0328.

**DIVERS IMMEDIATELY AVAILABLE**. Welding, cutting, construction, etc. Any part of world. UNDER WATER WELDERS AND REPAIRERS, LTD., Cardiff. Tel. 29631. (After hours: Penarth 58131.)

## PROFESSIONAL SERVICES

**SETTING-OUT ENGINEERS AND LAND SURVEYORS** supplied with full equipment and transport to work singly or in teams in ANY PART OF THE WORLD.

Motorways, multi-storey works, tunnels, route location, baselines, precise levels, machine setting. PRECISE SURVEYS, LTD.—Worcester 27584.

**BUILDERS' QUANTITIES PREPARED AND/OR PRICED** from plans and specifications in new and alteration work. Accounts, etc.—D. HIGGINS, 2 Park Crescent, Leeds, 8. Telephone 662117.

**DUPPLICATING, TYPING, COPYING, PRINTING** CONTRACT DOCUMENTS a speciality.—COPY-ART, LTD., 2 The Horseshoe, Leverstock Green, Herts. Telephone: Boxmoor 6965. London deliveries daily.

**MILLIONS OF POUNDS** worth of work SECURED BY TENDERS PREPARED by Britain's Top Private ESTIMATOR. Also help and advice on site organisation. Large or small contracts. Country-wide coverage.—Consult: R. J. CARR, 73 Leadenhall Street, London, E.C.3. Telephone: Avenue 9676-1120.

## FULLER HORSEY

SONS & CASSELL

### AUCTIONEERS AND VALUERS

OF

### PLANT, MACHINERY AND FACTORIES

Since 1897

10 LLOYDS AVENUE

LONDON E.C.3

TELEPHONE: ROYAL 4841

### SALES BY AUCTION

By Order of Sanders and Forster, Ltd., on removal to new premises.

**FULLER HORSEY SONS AND CASSELL** have been instructed to offer for SALE by AUCTION, in Lots on the PREMISES, 11 THAMES WORKS, HERTFORD ROAD, BARKING, ESSEX, on TUESDAY, 10th OCTOBER, 1961, at 11 a.m. precisely, SURPLUS STRUCTURAL STEEL AND CIVIL ENGINEERING PLANT AND EQUIPMENT.

Including:—STEEL STOCKS: 3-ton Lorry-mounted MOBILE CRANE; 6-ton Electric DERRICK CRANE; Four OVERHEAD TRAVELLING CRANES; 1-ton to 3-ton; Four Steel DERRICK MASTS; Four MOBILE AIR COMPRESSORS; Seven Portable CONCRETE MIXERS; ACROW FLOOR CENTRES; Pneumatic RIVETING BEAR; Mobile and Lund 42in. COLD SAW; Pels SHEARING MACHINE; PUNCHING, SHEARING AND CROPPING MACHINE; Two Swift Girder RADIAL DRILLS; Frequency Charger; 15 Coppered FAN CONVEYOR RADIATORS; Photo Copying Machines; Tanks; Bins; Clothes Lockers and other effects.

Catalogues, when ready, may be obtained of Messrs. FULLER, HORSEY, SONS AND CASSELL, Industrial Auctioneers, 10 Lloyds Avenue, London, E.C.3.

## SHIRLAW, ALLAN AND CO.

AUCTIONEERS, HAMILTON.

SALE OF MODERN SAND AND GRAVEL CRUSHING, SCREENING, WASHING AND CONVEYING PLANT, STEEL STORAGE HOPPERS, ELECTRIC MOTORS, SWITCHGEAR, EXCAVATORS, LOADING SHOVEL, PERSONNEL CARRIER, STEEL PIPING, ETC.,

Including:—Nordberg Symons 36in. Gyratory Cone Crusher; Parker 16in. x 10in. Type MB Primary Crusher; Two Parker 24in. x 42in. and 36in. x 48in. Belt Apron Feeders; Parker Oscillex Single-deck Vibrating Screen, 28ft. x 4ft.; Niagara Double-deck Vibrating Screen, 27ft. x 3ft.; Peppson-Teismit Single-deck Vibrating Screen, 12ft. x 4ft.; Two Parker-Sandor 24in. Type SA Sandwashing and Dewatering Plants; Parker Gravel Mixing and Washing Cylinder, 8ft. x 4ft.; Parker Uniflow No. 8 Sand Washing Cylinder, 12ft. x 6ft.; Eight Parker 24in. and 20in. Troughed Belt Conveyors, from 135ft. long; Parker 325-ton Type VES Five-Compartment Steel Storage Hopper; Parker 100-ton Type VES Two-Compartment Steel Storage Hopper; Steel Structures; Harland Unilode Electrically driven Centrifugal Pump, 5in. suction, 4in. discharge, with 26-h.p. motor; 450ft. of 6in. Unicone Steel Piping; 500ft. of 2in. M.S. Screwed and Coupled Piping; Eight A.C. 3-phase Totally Enclosed Sump Motors from 55-h.p. to 7½-h.p., with Allen West Oil-immersed Starting Gear; 10 A.C. 3-phase Totally Enclosed Squirrel Cage Motors, 7½-, 6-, 5- and 2-h.p., with Starting Gear; Two C.C. 15-kVA Static Condensers; 10 Distribution Switchboards, with Four Ellison Circuit Breakers, from 300-Amp; V.I.R. Power Cables; New Plant Seares, Smith 5/20 Excavator, with Dragline and Face Shovel Equipments; Priestman Panther III Excavator, with Dragline, Luffing Shovel and Backhoe Equipments; Priestman 12yd. Chain Grab; Chasidese 12yd. Loading Shovel on pneumatic; Bedford Personnel Carrier, etc.

At DOUNE SAND PIT, DOUNE, PERTSHIRE, on TUESDAY, 10th OCTOBER, 1961, at 11 o'clock prompt.

## SHIRLAW, ALLAN AND CO.

AUCTIONEERS, HAMILTON.

have received instructions from Messrs. Springbank Sand and Gravel Co., Ltd., to sell the plant surplus to their requirements by AUCTION as above.

On view day prior to sale.

Catalogues from Auctioneers.

Hamilton, September, 1961.

By Order of The Cementation Co., Ltd., arising out of the reorganisation of their South Wales Plant Depot.

TAFF'S WELL, CARDIFF.

## HENRY BUTCHER AND CO.

are instructed to offer for SALE by AUCTION in Lots at the WORKS on TUESDAY, 24th OCTOBER, 1961, at 11 a.m. the SURPLUS

## PLANT, MACHINERY, STORES AND EQUIPMENT

Including:—CONCRETE MIXERS by Parker, Rapier, Rex and Wignot; CRANE SKIPS, 1½ cu. yd. to 1½ cu. yd.; BLAW KNOX MOBILE BATCHMASTER; ELECTRIC and AIR HOISTS; 4½ cu. yd. DIESEL DUMPERS; AXIAL FLOW MINES FANS; LIGHT GAUGE RAIL TRACK and FITTINGS; ACROW PROPS; WEIGHT BATTERS; S.S. and S.C. LATHES; DRILLING GRINDING, THREADING and TAPPING MACHINES; AIR COMPRESSOR SETS; MUREX WELDERS; STEAM BOILERS; MONO PUMPS; Dust Extractors; A.C.E. Internal Vibrators; Porta Saws; Traffic Control Sets; R.S. JOISTS; M.S. ANGLES; FLATS and TUBE; STEPHENSON NEW DEPARTURE TIMBER OFFICES; Timber and Galvanised Huts and Frames; Portal Frames; Railway Sleepers; Engineers' Small Tools and Stores; Barrows; Lifting Tackle; Contractors' Hand and Pneumatic Welding Equipment; Non-Ferrous Metals; Pipe Fittings; Paints and Oils; FUEL and WATER TANKS up to 500 gallons; FORD THAMES and HILLMAN LORRIES and VANS; OFFICE FURNITURE; DRAINAGE OFFICE EQUIPMENT.

Catalogues (when ready) may be obtained of Messrs. HENRY BUTCHER AND CO., Auctioneers, Valuers and Surveyors of Factories, Plant and Equipment, 73 Chancery Lane, London, W.C.2. Telephone: HOLBORN 8411 (8 lines).

### AGENCIES

**MATBRO** wish to contact responsible companies to act as DISTRIBUTORS in the U.K. and overseas organisations to sell the MASTIFF 100-h.p. 4-wheel drive Tractor Shovel.—MATBRO, LTD., Horley, Surrey.





# Advertisements received too late for Classification

## LONDON COUNTY COUNCIL.

### VICTORIA AREA IMPROVEMENT.

#### LINK ROAD-WILTON ROAD TO VAUXHALL BRIDGE ROAD.

TENDERS are invited from contractors having considerable experience of road construction works, for the CONSTRUCTION of a NEW ROAD between Wilton Road and Vauxhall Bridge Road, Westminster. Form of Tender, Specifications, etc., and Drawings are obtainable from the Chief Engineer upon payment of £3 by crossed cheque or order made payable to the London County Council, which will be returned only if a bona-fide Tender is submitted and not subsequently withdrawn.

Contract and other relevant documents may be inspected on personal application at Room 450D, County Hall, before payment of fee. Remittance by post should be addressed to the Chief Engineer, County Hall, Westminster Bridge, S.E.1. No Tender received by the CLERK OF THE COUNCIL after 3 p.m. on MONDAY, 23rd October, 1961, will be considered.

The Council does not bind itself to accept the lowest or any Tender.

## BOROUGH OF WOKINGHAM.

TENDERS are invited for the CLEANSING of approx. 2,500 yd. of 6in. to 15in. SEWERS, maximum depth 23ft. Full details may be obtained from the BOROUGH SURVEYOR, Town Hall, Wokingham, Berks., by whom Tenders should be received not later than MONDAY, 9th October, 1961.

## BOROUGH OF NEWCASTLE-UNDER-LYME.

### HOT ROLLED ASPHALT SURFACING.

#### BARFORD BANK, NEWCASTLE, AND WATLANDS VIEW, PORTHILL.

TENDERS are invited for the ABOVE WORK, comprising of the FOLLOWING:—

- (1) Barford Bank—Approx. 400 tons Hot Asphaltic Base Course Material in Regulating Course, 3,800 sq. yd. of 1½in. thick Machine Laid Hot Rolled Asphaltic Wearing Surface, Dressed with Precoated Chippings.
- (2) Watlands View—Approx. 260 tons Hot Asphaltic Base Course Material in Regulating Course, 2,600 sq. yd. of 1in. thick Machine Laid Hot Rolled Asphaltic Wearing Surface, Dressed with Precoated Chippings.

Copies of the Specification and Form of Tender, together with Bill of Quantities, may be obtained from the Borough Engineer and Surveyor, Lancaster Building, High Street, Newcastle, Staffs. Tender Forms and Bills of Quantities must be returned to me not later than 12 Noon on TUESDAY, 10th October, 1961, in a plain sealed envelope, endorsed "Tender—Asphalt Surfacing."

C. J. MORTON,  
Town Clerk.

## CITY OF STOKE - ON - TRENT.

### HIGHWAYS ACT, 1959.

#### MAKING-UP OF PRIVATE STREETS.

- (a) RADFORD ROAD, CLIFFE VALE—SCHEME NO. 44.
- (b) PALMERS GREEN (PART), HARTSHILL, ETC.—SCHEME NOS. 929 AND 930.
- (c) RONSON AVENUE, TRENT VALE, ETC.—SCHEME NOS. 39 AND 40.
- (d) HEATON STREET (PART), MILTON—SCHEME NO. 22.

The CORPORATION invite TENDERS for the MAKING-UP of the ABOVE STREETS.

Drawings and Conditions of Contract may be seen and Bills of Quantities and Specifications obtained from the City Surveyor's Department, Town Hall, Stoke-on-Trent, on payment of £2 each in respect of (a) and (c), and £1 each in respect of (b) and (d), which shall be returned on receipt of a bona-fide Tender.

Tenders and priced Bills of Quantities must be delivered to the Town Clerk, Town Hall, Stoke-on-Trent, in the separate envelopes provided, not later than 12 Noon on WEDNESDAY, 11th October, 1961.

HARRY TAYLOR,  
Town Clerk.

## NORTH WALES JOINT CONTRACTING COMMITTEE.

### Comprising

Caernarvon and Anglesey Hospital Management Committee;  
Clwyd and Deeside Hospital Management Committee;  
North Wales Mental Health Management Committee;  
Wrexham, Powys and Mawddach Hospital Management Committee.

TENDERS will be invited in the near future for the SUPPLY of the UNDERMENTIONED:

- (1) Bedding and Linen.
- (2) Protective Clothing.
- (3) Crockery and Glassware.
- (4) Hardware and Cutlery.

Firms wishing to be included on the Committee's list of tenderers should write for further details, stating the classification in which they are interested, to the GROUP SECRETARY, Clwyd and Deeside Hospital Management Committee, Rhiarfia, Russell Road, Rhyl, Flintshire.

## BERKHAMSTED URBAN DISTRICT COUNCIL.

### CONTRACTS FOR WORK UP TO £3,000 IN VALUE.

Contractors who are desirous of having their names placed on the Council's list of contractors to be invited to TENDER for CONTRACT WORKS of up to £3,000 in value, may make application by letter. The contracts comprise:—

- (1) Highway Engineering Works.
- (2) Building Works, including Maintenance.
- (3) Electrical Installation.
- (4) Supply and Erection of Wire Fencing.
- (5) Renewal and Reheating of Metal Windows.
- (6) Descaling of Boilers.
- (7) Demolition.

Applications should be sent to the Engineer and Surveyor at the address below, not later than Noon on WEDNESDAY 11th October, 1961, and must state the contracts in which the contractor is interested.

D. T. THORNE,  
Clerk of the Council.

Civic Centre,  
Berkhamsted, Herts.  
September, 1961.

SHAWNEE POOLS for HIRE.—TENET CONSTRUCTION CO., 14 Longsight Lane, Cheadle Hulme, Cheshire. Telephone: Hulme Hall 1906.

## SOKE OF PETERBOROUGH COUNTY COUNCIL.

### ROADS AND BRIDGES DEPARTMENT.

#### TENDERS FOR WOODEN FENCING.

TENDERS are invited for the SUPPLY and DELIVERY of WOODEN FENCING MATERIALS in accordance with the Specification which may be obtained, together with the Form of Tender, from the County Surveyor, County Offices, Bridge Street, Peterborough. Tenders, completed as directed on the Form of Tender, must be delivered to the undersigned not later than 10 a.m. on TUESDAY, 17th October, 1961.

ERIC P. SMITH,  
Clerk of the County Council.  
County Council Offices,  
Bridge Street,  
Peterborough,  
20th September, 1961.

## BOROUGH OF ROMFORD.

### RESURFACING OF A.118 MAIN ROAD (PART).

TENDERS are invited for the RESURFACING of MAIN ROAD for a length of approx. 570 yd., from Crossways to Castellan Avenue, comprising the re-laying of 1,200 lin. yd. of Granite and Concrete Kerb, Laying 120 tons Hot Rolled Asphalt Base Course for regulating and shaping, 6,200 sq. yd. of 1½in. thick Hot Rolled Asphalt Wearing Course, Re-laying 2,900 sq. yd. of Slab Paving, 1,350 sq. yd. of 1½in. thick Bitumen Macadam Wearing Course to Footways and Verges, together with various ancillary works.

Contract documents obtainable from Borough Engineer and Surveyor, Town Hall, Romford, on deposit of cheque for £2 2s., returnable on receipt by the TOWN CLERK of a bona-fide Tender, in the envelope provided, not later than 23rd OCTOBER, 1961.

## BOROUGH OF BRIDLINGTON.

### CHAIN LINK FENCING AND POSTS.

TENDERS are invited for the SUPPLY and ERECTION of 500 lin. yd. of 6ft. high PLASTIC-COVERED CHAIN LINK FENCING, together with all necessary REINFORCED CONCRETE END AND INTERMEDIATE POSTS, and TWO TUBULAR FARM GATES. Tender documents can be obtained from the Borough Engineer, Town Hall, Bridlington. Tenders to be signed by 16th OCTOBER, 1961.

S. BRIGGS,  
Town Clerk.

## ETON RURAL DISTRICT COUNCIL.

### GERRARDS CROSS RELIEF SEWERS.

Civil engineering contractors experienced in main drainage work, wishing to be considered for inclusion in a selected list of contractors to TENDER for the CONSTRUCTION of PRECAST CONCRETE RELIEF SEWERS, ranging in size from 27in. to 9in. dia., together with the Construction of Precast Concrete Manholes, Brick and Reinforced Overflow Chambers, and other appurtenant works, are invited to apply in writing to the undersigned by not later than 18th OCTOBER, 1961, giving the names of two referees for whom similar work has been carried out.

A Plan of the proposed Scheme may be seen during normal office hours at the Office of the Engineer and Surveyor, Council Offices, Windsor Road, Slough, from whom any further information may be obtained.

D. P. HARRISON,  
Clerk to the Council.  
Council Offices,  
Windsor Road,  
Slough, Bucks.

## SOUTH DERBYSHIRE WATER BOARD.

### COVERING OF EXISTING SERVICE RESERVOIRS.

Contractors able to design and install prestressed and precast concrete units, and wishing to TENDER for the ABOVE SCHEME are invited to submit their names to the Engineer and General Manager, 1 Tenant Street, Derby, by 16th OCTOBER, 1961.

The work consists of the Provision and Erection of roughly about 6,000 sq. yd. in extent, which may comprise Prestressed Concrete Slabs or other form of covering, supported by Prestressed and Precast Concrete Beams and Columns.

Applications must be accompanied by a list of works of a similar nature and magnitude carried out by the applicant.

N. S. FISHER,  
Clerk to the Board.

25th September, 1961.

SENIOR ENGINEERING ASSISTANT to take charge of small building and civil engineering drawing office. Experience required in design and construction of industrial buildings and foundations, including reinforced concrete. Experience in road and sewer work an advantage. Preference given to a man with all-round knowledge and previous supervision experience. Contributory pension scheme. — Applications, stating salary required, age, qualifications, experience, previous and present employers, should be addressed to the Chief Engineer, W. SNARE AND SONS, LTD., Civil Engineering Contractors, Clifton Road, Eccles, and received not later than 3rd October, 1961. All applications treated in strictest confidence.

ENGINEER REQUIRED by an expanding civil engineering company in Bedfordshire. First-class opportunity for keen, ambitious man. Experience required on road and sewer construction. — Write, giving details of past and present position, age, salary required, etc., to Box V.4911. "The Contract Journal."

REQUIRED for work on hydro-electric scheme: One ELECTRICIAN one ELECTRICIAN'S MATE. Subsidistence and camp accommodation available. Working a minimum 59 hours per week. — Apply to THE CEMENTATION CO., LTD., Civil Engineering Division, Ffestiniog Pumped Storage Project, Blaenau Ffestiniog, Merionethshire.

LETTS BROS., Surveyors, 340 Richmond Road, East Twickenham, Middlesex, have a vacancy for a permanent ENGINEERING ASSISTANT for design, supervision and administration of roads, sewers and ancillary engineering works on housing developments. Applicants should have reasonable experience and Inter Civil or Municipal Engineers. Knowledge of town planning an advantage. Flat available. Salary according to experience and suitability.

BUILDING MANAGER REQUIRED, with good experience of private building estates essential, for busy and expanding firm. Excellent prospects. Please write, giving full particulars and salary expected, to CRESCENT BUILDERS AND ESTATES, LTD., 21 Lynton Street, Wolverhampton, Staffs.

## WEST SUFFOLK COUNTY COUNCIL.

APPLICATIONS are invited for the POST of ASSISTANT DIVISIONAL SURVEYOR in the Highways Department on Grade A.P.T. 1-II (£645-£960). Applicants must have had three years' training as a Highway Engineer.

The appointment is permanent and superannuable, subject to N.J.C. conditions of Service, and medical examination. Approved removal expenses are payable. Vehicle provided if not car owner. Applications, on forms obtainable from the COUNTY SURVEYOR, Manor House, Bury St. Edmunds, to be received by MONDAY, 16th October, 1961.

## BOROUGH OF CHESTERFIELD.

### TRUNK ROAD A.61.

#### HOT ROLLED ASPHALT SURFACING.

FIXED-PRICE TENDERS are invited for the SURFACING of four lengths of TRUNK ROAD A.61 totalling approx. 6,300 sq. yd. in Hot Rolled Asphalt with Igneous Rock Aggregate.

Tender documents may be obtained from the Borough Engineer and Surveyor, Town Hall, Chesterfield. Tenders, in a plain sealed envelope, endorsed "Tender for Hot Rolled Asphalt Surfacing—Trunk Road A.61," must be returned to the undersigned not later than 10 a.m. on FRIDAY, 20th October, 1961.

RICHARD CLEGG,  
Town Clerk.

## CITY OF LEICESTER.

### ANNUAL STORES CONTRACTS.

TENDERS are invited for the SUPPLY of the FOLLOWING MATERIALS during period 1st January to 31st December, 1962:—

- Ironmongery and Tools.
- Sewerage Ironwork.
- Stoneware Pipes, etc.
- Portland Cement.
- Granite Road Materials.
- Gravel, Sand and Clinker Ashes.
- Concrete Flags, Pipes and Kerbs.
- Road Spraying Materials.

Forms of Tender may be obtained on application to the City Surveyor's Department, Costing Section, 1 St. Nicholas Street, Leicester, and must be returned to the City Surveyor, Town Hall, Leicester, by 3rd NOVEMBER, 1961.

The Corporation reserve the right to divide the contracts.

JOHN L. BECKETT, M.I.C.E.,  
City Engineer and Surveyor.

## CITY OF MANCHESTER.

### HAUGHTON GREEN OVERSPILL SITE—DENTON.

#### ROAD AND SEWER CONTRACT.

TENDERS invited for CONSTRUCTING 50,000 sq. yd. of BITUMEN MACADAM CARRIAGEWAY, 8.5in. yd. of 9in. to 30in. dia. SEWER, and all ancillary work.

Tender documents (returnable by 30th OCTOBER, 1961) obtainable from the CITY SURVEYOR (Room 202), Town Hall, Manchester, 2.

## COVENTRY CORPORATION.

### SEWAGE TREATMENT WORKS CONTRACTS.

The Corporation intend to CARRY OUT a large programme of EXTENSIONS—mainly at the FINHAM WORKS—during the next five or six years. The value of civil engineering contracts, the values of which are estimated to be up to £500,000.

Contractors experienced in this type of work are invited to apply to CITY ENGINEER, Council House, Coventry, by 16th OCTOBER, giving details of similar contracts already carried out.

## HOLLINGBOURN RURAL DISTRICT COUNCIL.

### HEADCORN SEWAGE DISPOSAL WORKS.

#### CONTRACT NO. 4.

The Council invite TENDERS for the CONSTRUCTION of SEWAGE DISPOSAL WORKS, comprising Sewage and Stormwater Pumping Station, Spon-iron Pumping Main, Sedimentation Tanks, Percolating Filters, Humus Tank, Sludge Drying Beds, and other appurtenant works.

Contractors desirous of tendering are requested to send their names and addresses to D. BALFOUR AND SONS, 131 Victoria Street, Westminster, S.W.1, accompanied by a cheque deposit of £10 made payable to the Hollingbourn Rural District Council, not later than TUESDAY, 10th October, after which full particulars will be forwarded. The deposit will be returned on receipt of a bona-fide Tender and the receipt of all printed documents after the Contract has been let.

It is essential that the contractor shall have had considerable experience in similar works and be prepared to furnish security with an approved Society for the fulfilment of the Contract.

Tenders, in a plain sealed envelope endorsed "Tender for Sewage Disposal Works," must be sent to the undersigned by a date to be given by the Engineers. The Council do not bind themselves to accept the lowest or any Tender.

JOHN J. McGEARY,  
Clerk of the Council.

Council Offices,  
73 College Road,  
Maldstone, Kent.

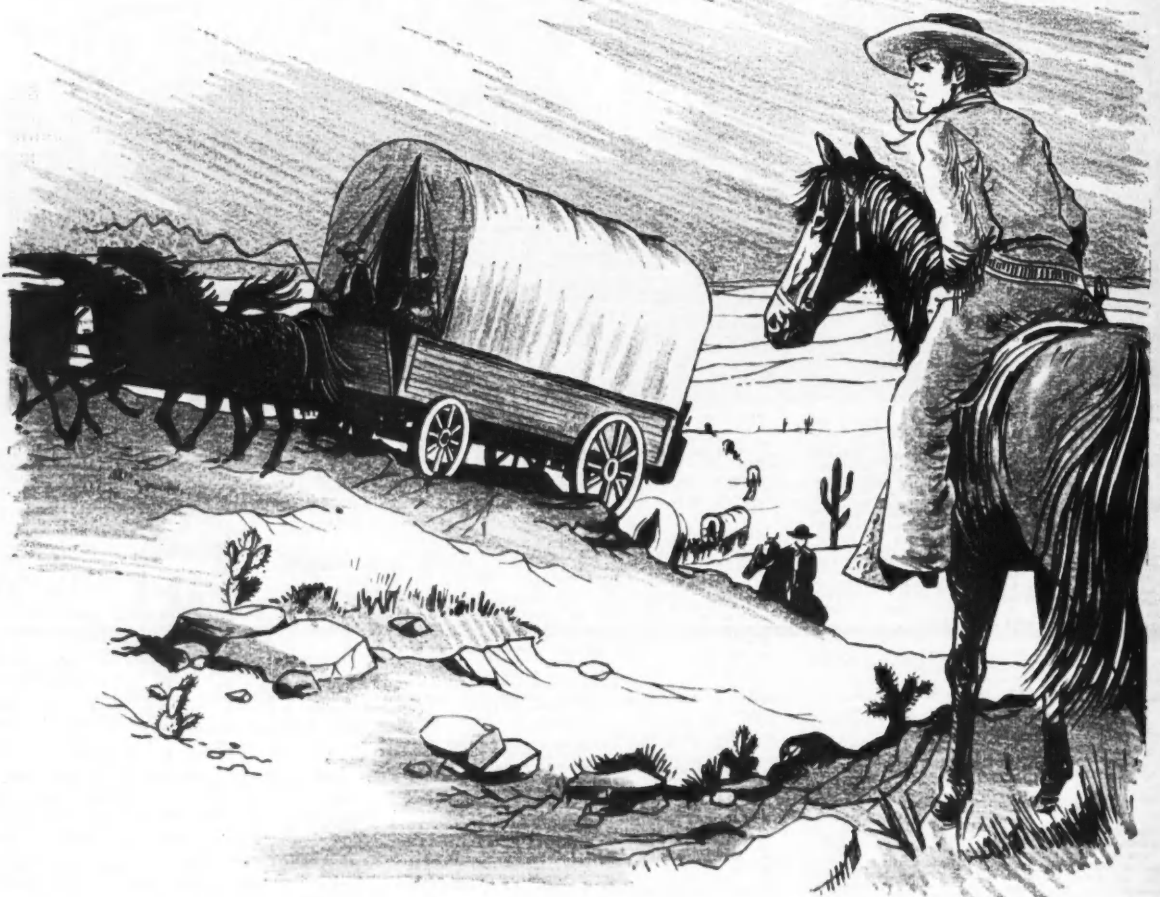
ASSISTANT MANAGER REQUIRED for Scottish area by established firm carrying out asphalt contracts on a national basis. Applicants, between the age of 30 and 40, must have proved administrative capabilities and be able to control staff and labour. Experience in hot and cold asphalt and bituminous macadam essential. Pension scheme and good prospects for young men who wish to progress. Write Box V.4901. "The Contract Journal."

SITE QUANTITY SURVEYOR REQUIRED immediately for sewerage works contract near Luton. Beds. With experience in preparing interim valuations and site measurements on civil engineering works. Pension scheme in operation. Progressive staff appointment. Apply writing, stating age, experience, previous employers, and salary required, to J. L. EVE CONSTRUCTION CO., LTD., 17 Hillside, Ridgway, Wimbledon, S.W.19.

DROTT BGKS, No. 9083, new Sept. 1959, 4-in-1, operator's cab, £2,200.—TENET CONSTRUCTION CO., 14 Longsight Lane, Cheadle Hulme, Cheshire. Telephone: Hulme Hall 1906.



**oh . . . for a concrete road!**



*smooth riding • high visibility • minimum maintenance*



**SOLE DISTRIBUTORS**

**THOS. W. WARD LTD. ALBION WORKS SHEFFIELD**

K29

# THE CONTRACT JOURNAL

INCORPORATING  
THE BRITISH CONSTRUCTIONAL ENGINEER AND THE CONTRACTOR

## THE CONTRACT JOURNAL

Incorporating  
THE BRITISH CONSTRUCTIONAL ENGINEER  
and  
THE CONTRACTOR

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LAWRENCE MCCARTHY

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## WHERE THE SHOE WILL PINCH

LAST week this column reviewed the setback in overseas contracting. Such work concerns only one contractor in every thousand. But the prospects at home affect everyone in the construction industry. And some useful pointers have already appeared since Mr. Selwyn Lloyd announced his restrictions a couple of months ago.

Two things seem to have been quickly and widely accepted since that announcement. First, the restrictions are unlikely to have any substantial effect until next year. Second, the flow of new work was slackening of its own accord. Striking confirmation of this second thesis is to be found in the figures of contractors' output and new orders for the second quarter of 1961 which have recently been published by the Ministry of Works. The £20m. excess of orders was the smallest margin for 21 months.

But this does not make Mr. Lloyd's measure redundant. The Chancellor was not content to see the pressure on construction kept at the boil. He chose to reduce it and on that basis his measures were necessary.

These measures will clearly be slow acting with all the work that there is in the pipeline. Already, however, the demand for materials is evidently beginning to slacken partly due no doubt to a tendency for contractors to run-down their stocks in anticipation of easier trading conditions ahead.

There are three main factors that will be influencing the demand for construction in coming months. First direct restrictions on Government and local authority programmes; second the cost of and squeeze on credit; and finally the question of business confidence.

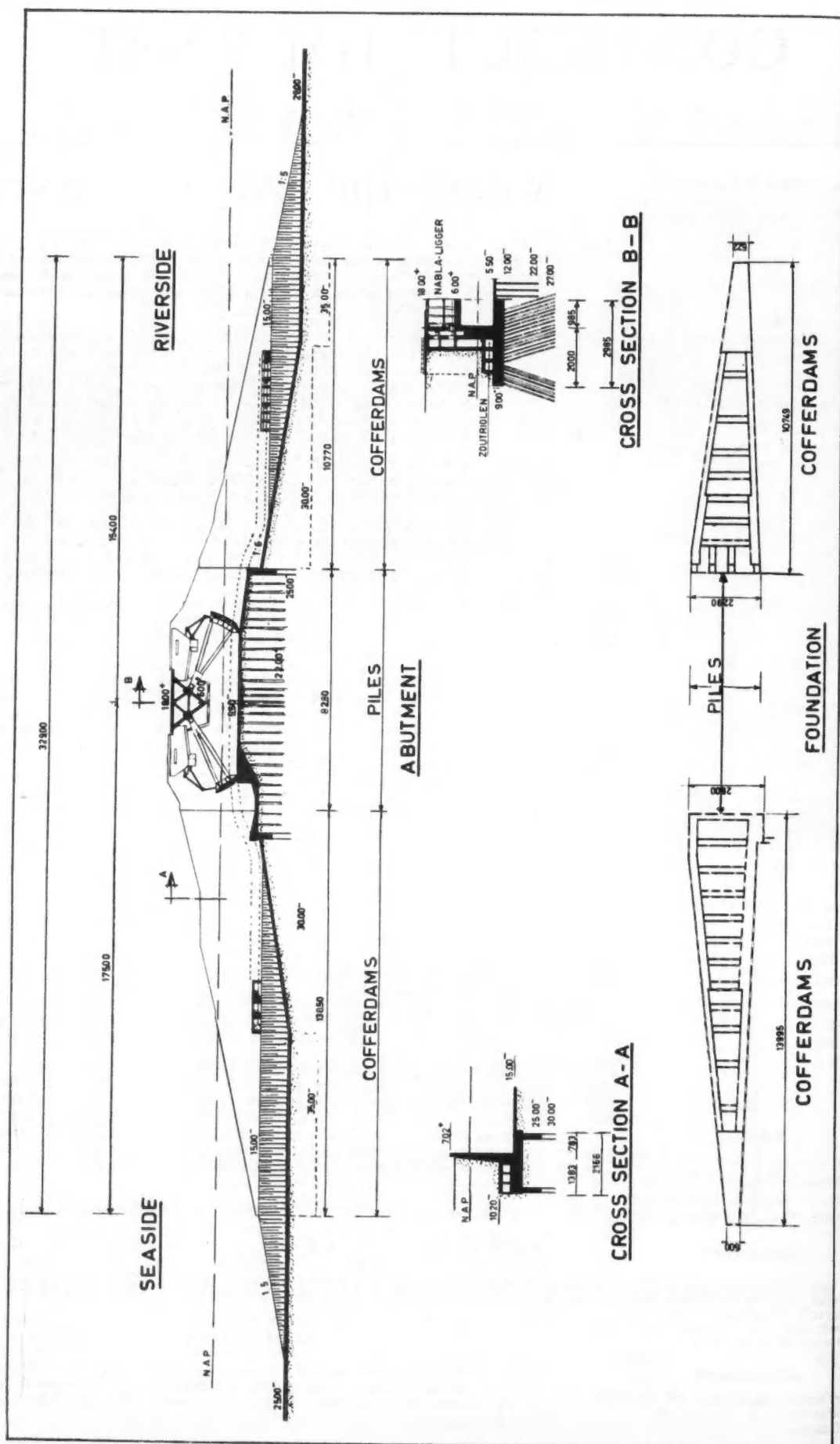
Most Government programmes have been deemed so vital that they have largely escaped Mr. Lloyd's axe. Roads, hospitals, schools, power stations, railways and research projects have been no more than trimmed. But with local authority schemes the position is different. Stiff instructions to reduce expenditure have been issued. The high interest rates are bound to deter all but the most essential schemes. And the credit squeeze has dried up finance to such an extent that borrowings from the Public Works Loans Board—the local authorities' lender of last resort—have actually had to be increased thus providing a paradoxical twist to the Government's measures. But the overall prospects of public works, which account for some 25 per cent. of all new work, appear to be not unreasonable.

Housing, which amounts to some 40 per cent. of the total programme is much more an unknown quantity. Local authority schemes except those associated with slum clearance are being cut. But the vital factor is the supply of mortgage finance. Most local authorities have suspended their mortgage schemes. Building societies and insurance companies are short of funds and the increased interest rates have raised repayments. In the result, a good four figure income is necessary before a would-be house purchaser can raise a mortgage and even then he will be lucky if the mortgage covers more than 75 per cent. of the cost. Such a situation can hardly fail to reduce the effective demand for houses and may bring a halt to the rise in house prices. Fortunately, private enterprise house builders have plenty of work in hand.

Industrial construction, although buoyant in terms of output, has for some time made a comparatively poorish showing as regards orders. The order load is, in fact, well below that of 1957. And the position does not look like improving. Factory space covered by industrial development certificates issued so far this year is down on the comparable figures for 1960 and commissions for industrial work to private architects (a sensitive indicator) are similarly down. The prospects for this work, some 20 per cent. of the programme, appear to be anything but good.

Other private work which includes offices, shops and places of entertainment accounts for the remaining 15 per cent. of the programme. Here the order load has been increasing slightly, but a setback seems likely. According to the architects, speculative property development is tending to decline although commissions for shops, hotels, warehouses, churches and social building held up well in the second quarter of 1961.

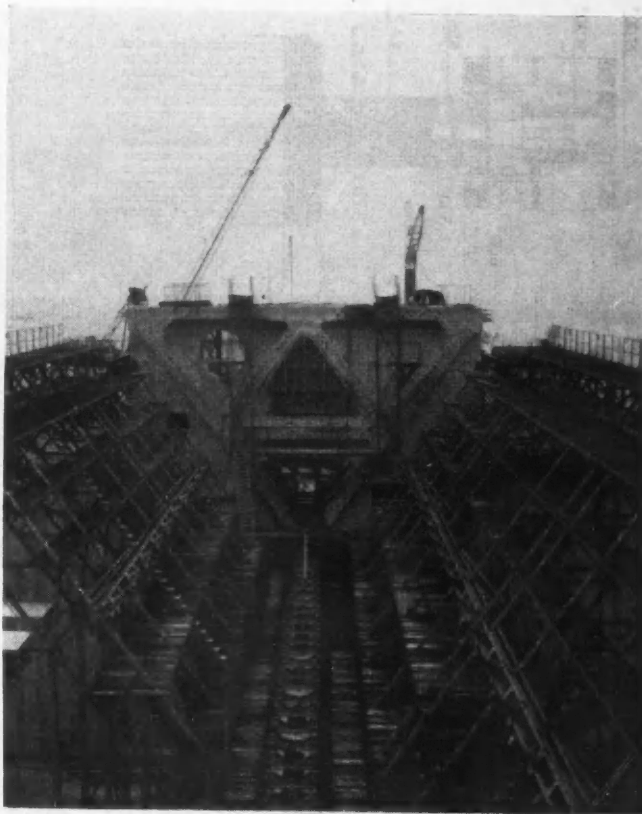
It seems fair to conclude that as work gets scarcer in the coming months the shoe will pinch tightest in relation to housing, local authority and industrial work. But as this journal remarked at the time of the cuts there is a great deal of work in the pipeline and no cause for panic. But the intended cuts coincide with increasing productivity in the industry. It is essential that the tap be turned on again well before the amount of work falls short of expanding capacity.





## FLOOD PREVENTION WORKS IN HOLLAND

**British Engineers Visit  
£25m. Scheme**



Erection of bridge unit with falsework in foreground

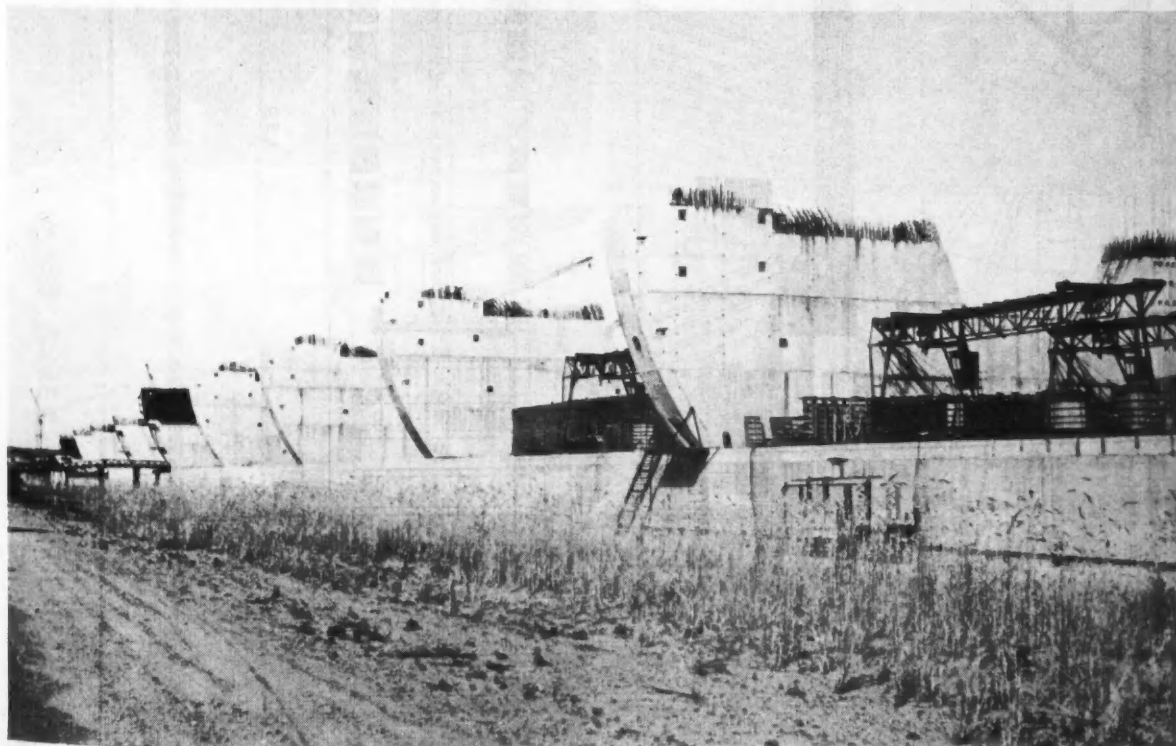
ONE of the most impressive flood prevention schemes yet undertaken in Holland was recently inspected by a party of British engineers during a one-day visit organised by the Prestressed Concrete Development Group.

Arriving at Rotterdam Airport from Gatwick, the visitors motored into the city where they had a quick look at the new

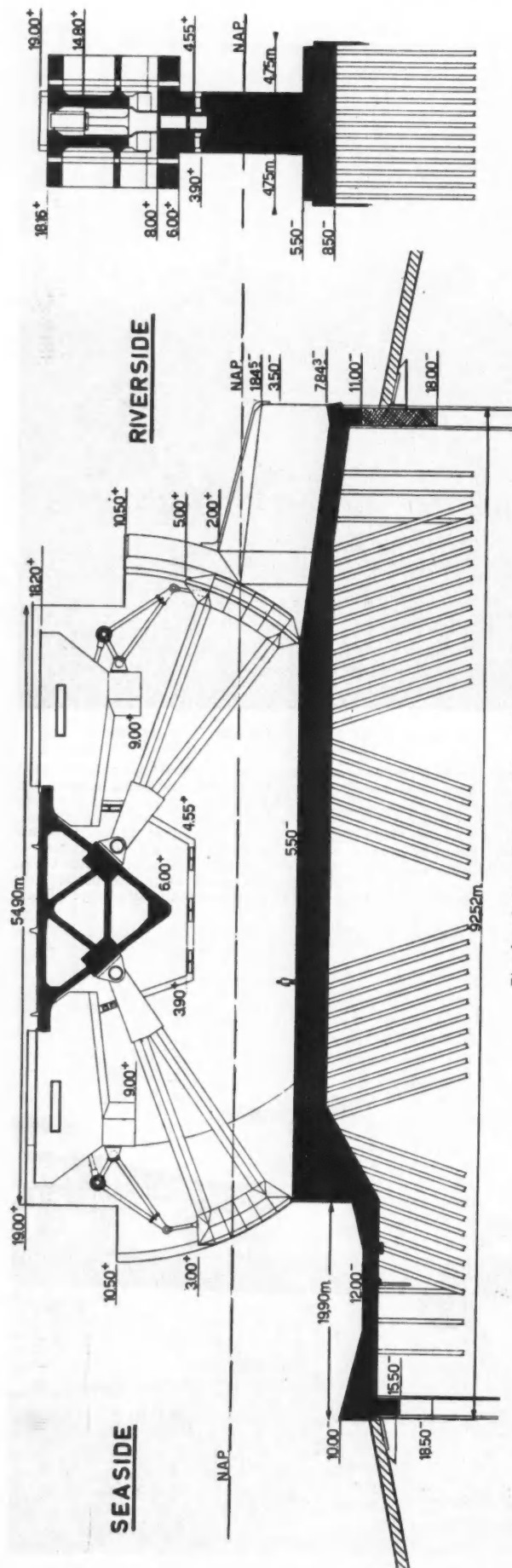
shopping precinct. They then travelled south through the Maas Tunnel towards their objective—the Haringvliet—which is one of the sea arms being sealed off by the Dutch Government under the Delta Plan. The others are the Brouweshavensche Gat, the Eastern Scheldt and the Veersche Gat.

In the Haringvliet a massive set of

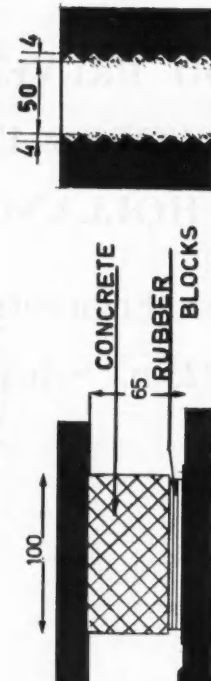
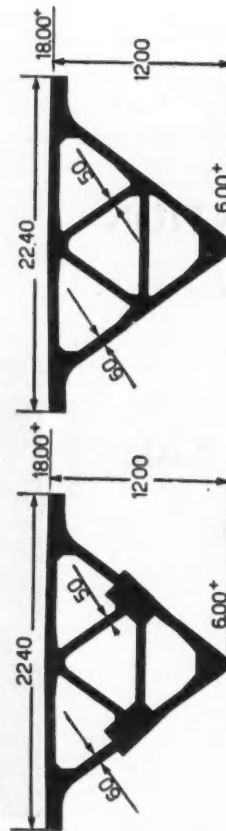
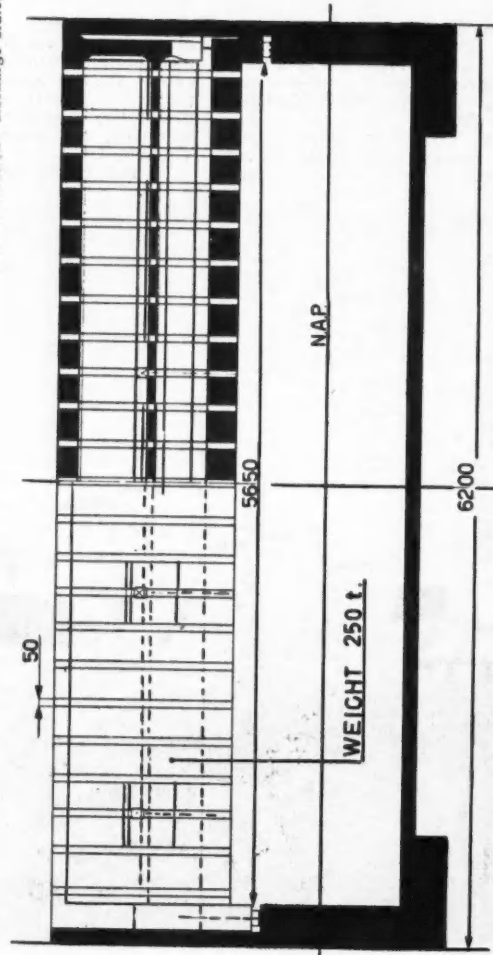
sluices, to be spanned by a prestressed concrete bridge, is now being constructed in advance of the remainder of the dyke on an artificial island near Hellevoetsluis. There will be a total of 17 sluices (each with a width of nearly 62yd. and a threshold of 18ft. below Main Sea Level) the dimensions of which are particularly essential in view of the discharge of ice.



General view of the construction of piers between sluices



Pier foundation—discharge sluice with segment gates



JOINT BETWEEN THE PRE-FABRICATED DISCS OF THE NABLA BEAMS

NABLA-BEAM

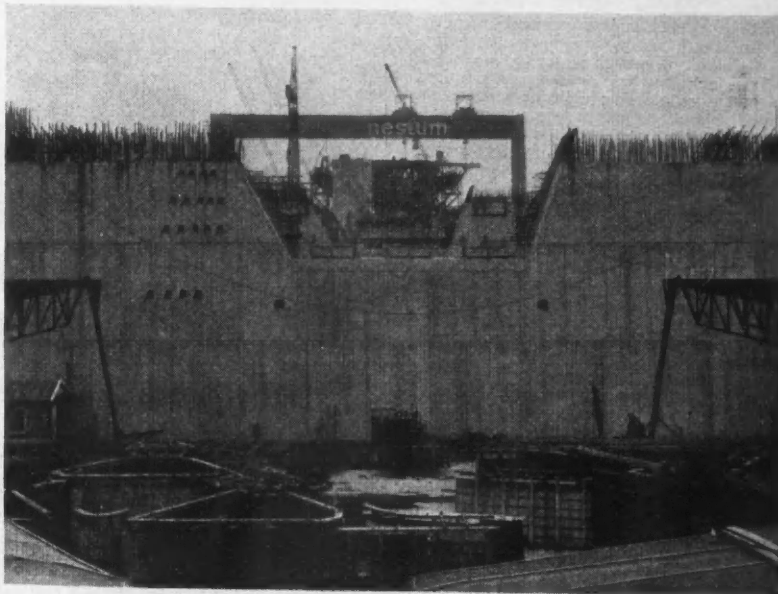
Very large ice floes will be able to pass through the openings, while the reinforced concrete piers will be provided with steel "knives" capable of cutting the large floes into smaller pieces. Nevertheless, should an ice-jam form, the height of the openings (20ft. above Main Sea Level) has been designed to allow ice-breakers from outside the sluices to steam in and break-up the jam.

To prevent the danger of ice jamming during frosty weather, it will be possible, temporarily to have 11 sluices completely opened, so that the tidal action of the water, ebb and flood, is allowed, thus avoiding this additional danger.

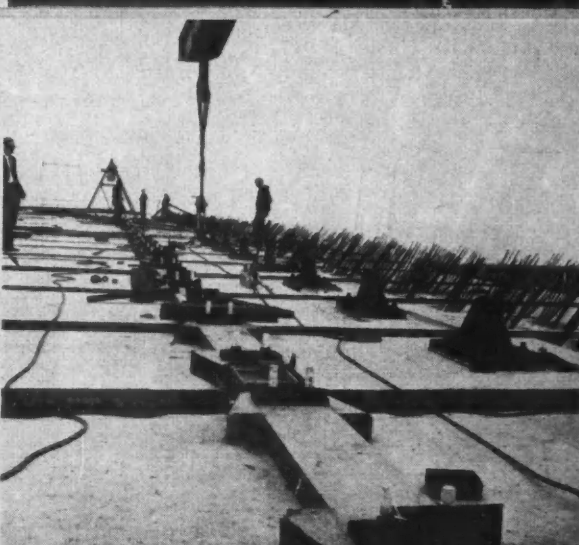
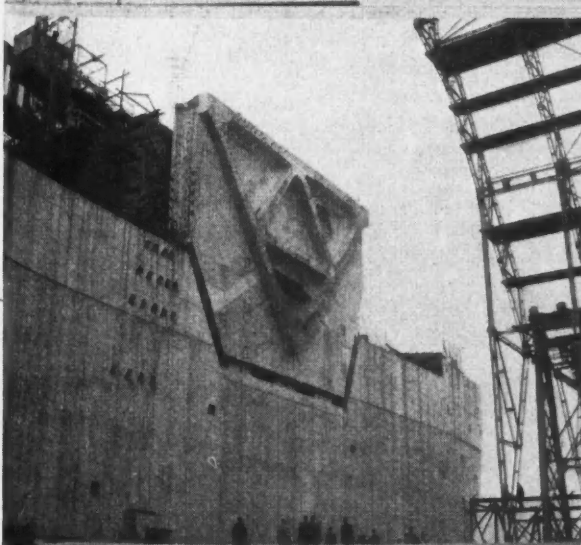
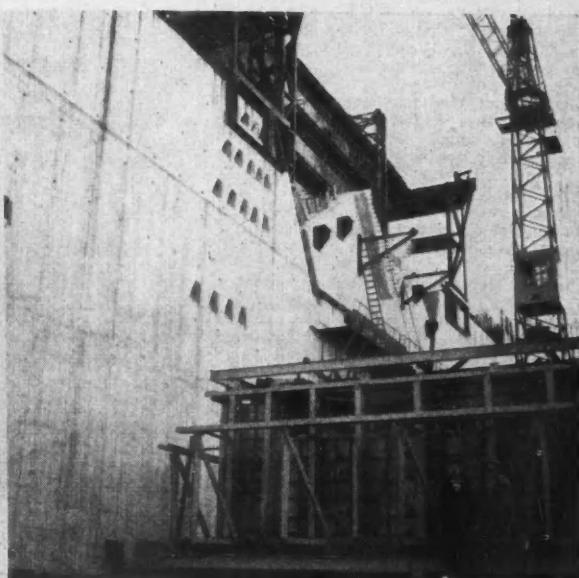
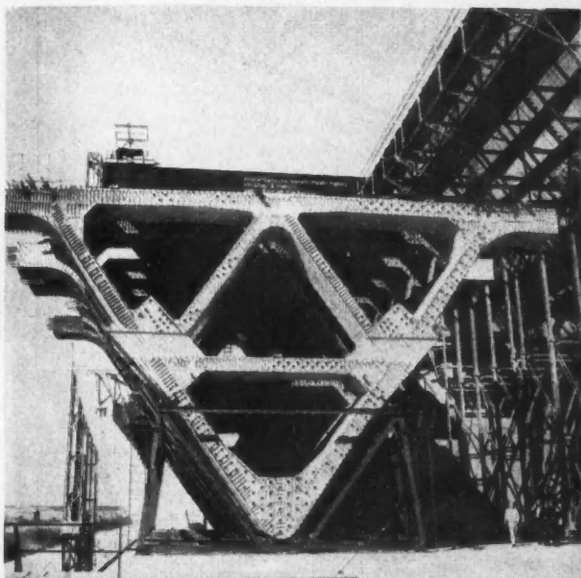
#### Special Gates

The extremely wide openings between the piers, together with the unpredictable and anticipated forces from outside with tempestuous spring or high tides, and from within, the enormous discharge of water accompanied or not by masses of ice, have made the use of traditional sluice gates impossible.

Under these conditions a new method of construction had to be devised. After lengthy calculations and with the aid of very extensive tests and trials at the Dutch Laboratory for Scientific Water Drainage, a method has been evolved for making segment-shaped lock hatches or sliding valves—in reality drums or cylinders fitted to the outside, as well as the inside of the



The Goliath crane seen from one of the piers



(Top left) Precast bridge units stacked awaiting erection. (Top right) Precast concrete diaphragm unit for the bridge in position on a pier. (Bottom left) Bridge unit in position. (Bottom right) Units ready for prestressing



sluice openings, and supported over the entire length against the bridge construction which spans each sluice.

The lock hatches or doors are raised by means of a separate lifting mechanism which is built into the piers, simultaneously with the connections with which the hatches are supported against the bridge construction.

#### The Bridge

Of particular interest to the British visitors was the bridge, which will carry a six-lane highway over the 17 sluices. It is made up of large precast units, each weighing 170 tons; which are cast on the concrete floor between the piers. The units are prestressed on the Freyssinet system, and after they have been placed in position on the piers by a Goliath crane, are stressed together by the BBRV system. Normal grouting techniques are employed.

In shape the precast units are triangular, the cross-section of which forms an equilateral triangle with its point directed downwards. In the centre of the triangle a work tunnel is provided for inspection purposes and repairs. At their base the units will be 20ft. above Main Sea Level, and at the top, 60ft.

Work began on the Haringvliet project in February, 1957, with the construction of a ring dyke. The area enclosed by this dyke was pumped dry to provide the "building pit." A start was then made on the concrete sluice foundations which involved driving over 20,000 piles. In all it is estimated that a further quantity of 447,000 cu. yd. of reinforced concrete will be used on the scheme.

For the drainage of the site and the operation of plant and machinery, it is estimated that 54,000,000-kW-hours will be needed, and a temporary electricity power station has been erected on the dyke surrounding the "pit."

The total labour force is between 400 and 500; the average working week is 55 hours. The accident rate—not one serious injury, it was stated during the recent visit.

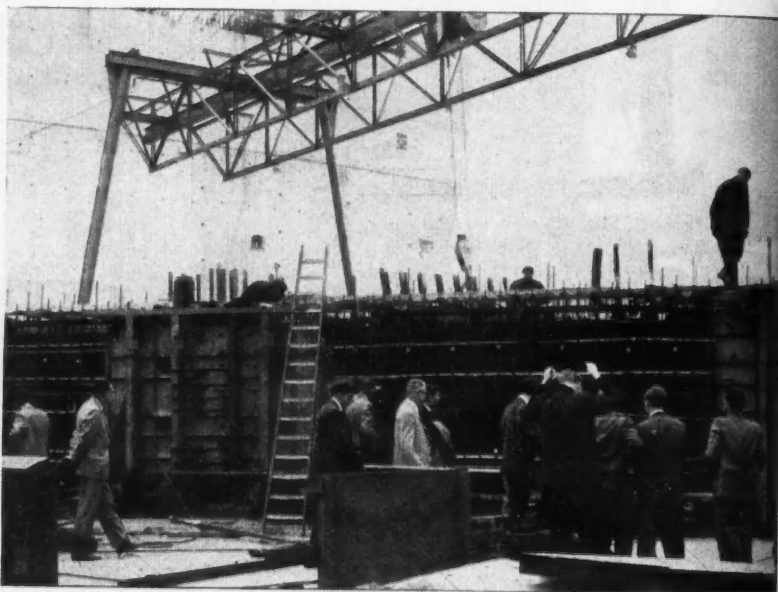
This £25m. section of the Haringvliet scheme, which is expected to be completed in 1964, is being carried out by N. V. Nestum, a consortium comprising: Amsterdamsche Ballast Maatschappij; Christiani and Nielsen; Van Hattam en Blankevort; Hollandsche Beton Maatschappij; Internationale Gewapendbeton Bouw; Nederlandsche Beton Maatschappij Bato.

#### Future Prospects

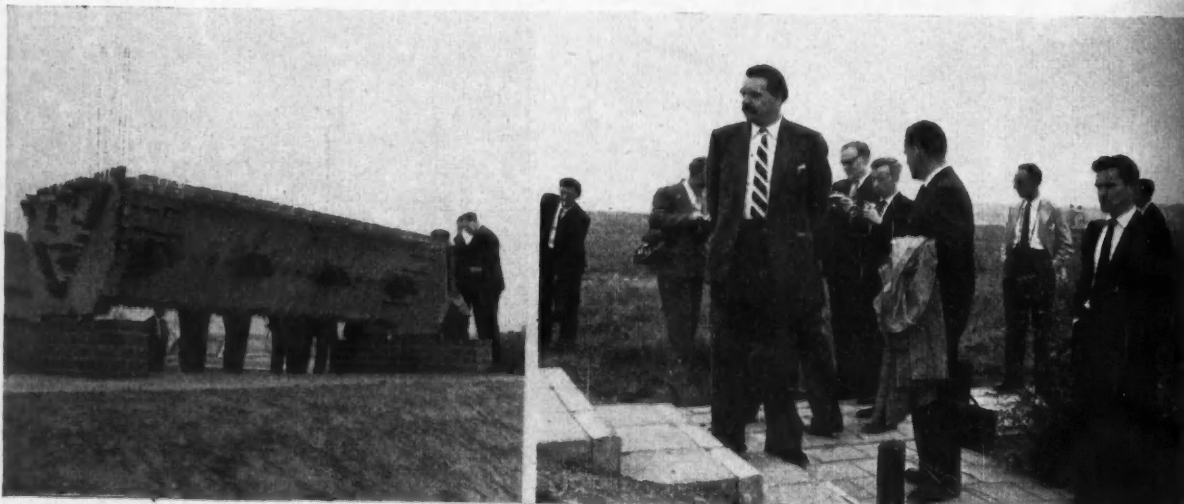
As part of the Dutch Delta Plan, the Haringvliet project will help to ensure the safety and the fresh water supply of south-western Holland. In addition, together with the other schemes, it will assist in the development of an area which, so far, has been comparatively isolated. Thanks to the construction of roads on the closing dams the islands will come into direct contact with the rest of the country.



Unloading concrete for precasting



Shuttering for precast units



Members of the British party seen inspecting a model of a bridge unit

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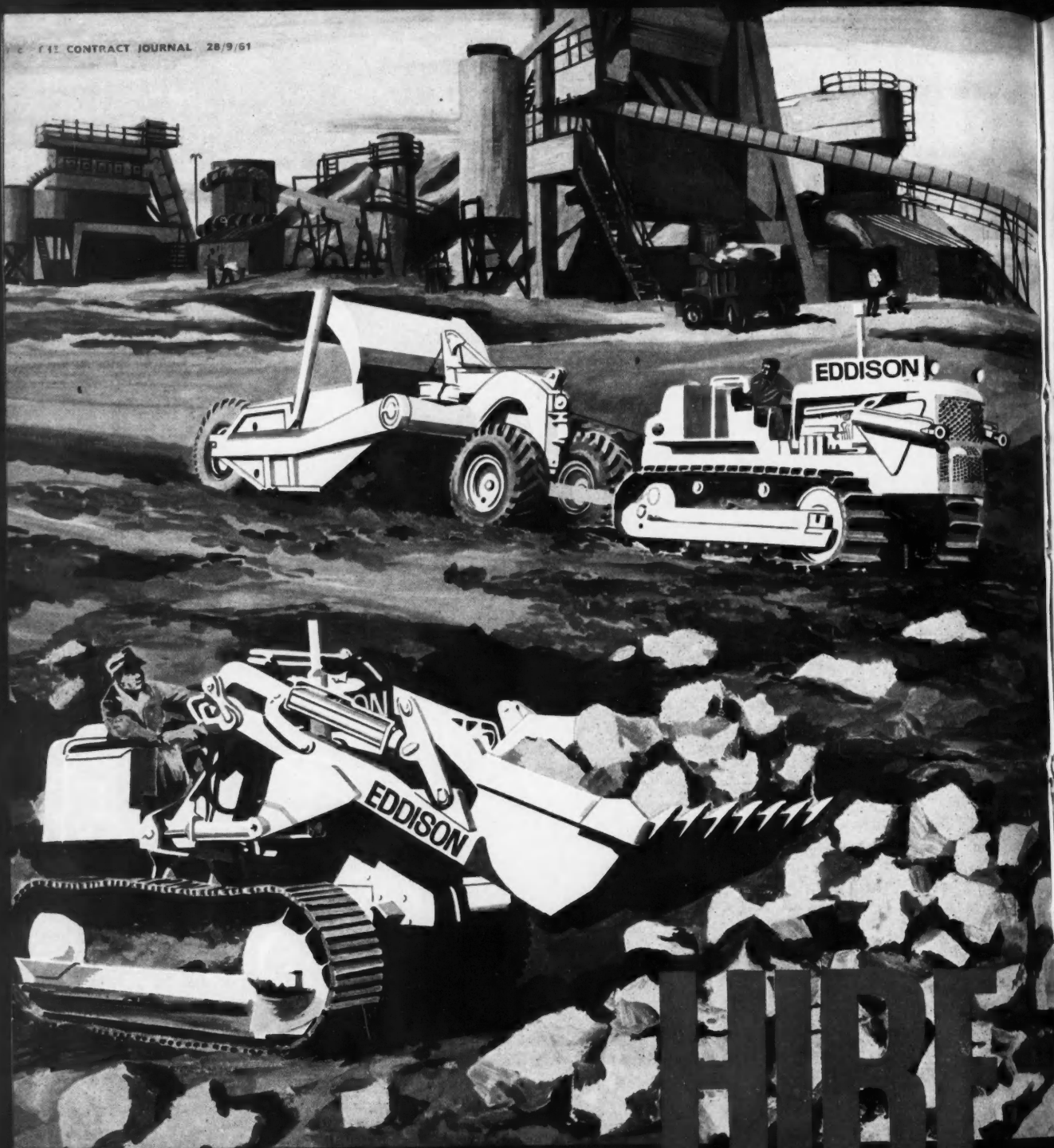


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# A LAWYER CONSIDERS . . .

## Fluctuations on Graduated Contributions — Taxing Employees' Benefits

THE state graduated insurance scheme which began on April 3, 1961, has introduced a factor which was clearly not envisaged when the present R.I.B.A. conditions in Clause 25A dealing with fluctuations in national insurance contributions were drawn up.

This scheme provides that on earnings, the same earnings on which P.A.Y.E. tax deductions are calculated, between £9 and £15 per week a graduated national insurance contribution is payable on each 5% increase; the actual contributions range from one penny at £9 to 5s. 1d. at £15 and over. This graduated portion of national insurance contributions is in addition to basic or flat-rate contributions. The result of introducing this scheme is that in industries where weekly earnings fluctuate the employer's graduated insurance contribution will also fluctuate according to those earnings. There is therefore no longer one fixed national insurance contribution which applies to all male workpeople.

### R.I.B.A. Provisions

The R.I.B.A. fluctuations clause on national insurance contributions works on a simple basis. Tenders are to be calculated to include for national insurance payments current at the date of tender. No account should be taken of increases to come into effect after that tender date even if such increases are known at that date. Fluctuations are then claimable on any increases in those payments after the tender date. It is a quite different principle from the calculation of labour cost fluctuations where current wages and any known increases to take place after the date of tender must be included in that tender.

It is obvious however that the new graduated element of national insurance contributions produces or will produce certain difficulties.

The first difficulty is in the calculation of fluctuations. If, for example, a tender was submitted on February 1, last on R.I.B.A. conditions with fluctuations being claimable, it is clear that the tender should not have included for any increase in national insurance contributions due to the introduction of the new graduated scheme on April 3, 1961. Any increase due to that scheme will fall to be claimed under the fluctuations clause. Unfortunately the calculation of that increase is difficult; you cannot, as used to be the case where one rate for all male workpeople was payable, simply multiply the increase by the number of men since the increase, if any due, to the graduated scheme will differ for each man. It appears therefore that fluctuations will have to be worked out with regard to the position of each of the workpeople concerned; one must take what was, or would have been, payable weekly for each of the workpeople for national insurance at the date of tender and then find what has been paid weekly for those workpeople since April 3, 1961—some weeks may show an increase and some weeks, due to low total earnings, may even show a decrease; the fluctuation calculation for each of the workpeople will then be possible.

It may be that, faced with this difficulty, some building owners will try to say that they will only consider paying fluctuations in national insurance contributions if the graduated contributions are calculated on standard rates of wages for a normal working week. The answer is that the contract does not give the building owner any right to say what hours the contractor shall have men working nor what he shall pay them, subject of course in the local authorities form to the fair wages clause; nor indeed do the paragraphs (c) and (d) of sub-clause

(1) of Clause 25A dealing with this matter make any reference to wages—they merely refer to rates of national insurance contribution payable at the date of tender and then allow increases in those rates after the date of tender to be recoverable. It is suggested, therefore, that the building owner cannot look behind those rates and attempt to lay down any rule as to the amount of wages on which graduated national insurance contributions are payable.

The second difficulty is as follows: Clause 25A (1)(c) states that the tender is based on rates of national insurance contribution payable at the date of that tender. With a graduated contribution varying from week to week and from man to man there is therefore no one rate that is payable at the date of tenders submitted since April 3, 1961. This should create no difficulty at the moment because tenders submitted since April 3, 1961, must have taken into account the graduated portion of national insurance contributions. The difficulty will arise, however, if the government decide at any time to alter or increase the amount of graduated contributions; how will the fluctuations then be calculated? There will have been no one rate of contribution at the date of tender; and there will be no one amount of increase to all workpeople.

Clearly the existing provisions of the contract are quite inadequate to deal with this situation. The solution probably lies in dealing with the graduated portion of national insurance contributions quite separately from flat-rate contributions; thus the contractor might have to state the average graduated contribution on which he will be deemed to have based his tender; then if as a result of any alteration in the graduated portion of national insurance contributions that average is increased then that increase will be recoverable. No doubt other methods are possible and much will depend on the exact nature of any government alteration in the scheme. However, until the R.I.B.A. contract is amended on this point, contractors with tenders after April 3, 1961, should take any necessary steps, including the amendment of the conditions, to make sure that they are able to recover with the minimum of argument any increases in the graduated portion of national insurance contributions.

### Taxing Employees' Benefits

THE harshness of the expenses rule for employees and others who are taxed under Schedule "E"—broadly speaking those coming under the P.A.Y.E. system—has once again been shown in the case of *McKie v Warner* [(1961) 3 All E.R. 348].

W. was appointed as export sales manager and his employers felt it essential for him to live in London to carry out his duties satisfactorily. He was told to look for a suitable flat and when this was found the employers took a lease of it at £500 per annum exclusive. W. was asked to pay £150 per annum to his employers for this accommodation, a figure arrived at as being in proportion to the salary he was paid. The company itself therefore paid £350 and the Revenue sought to add this sum to W.'s income and tax him upon it.

As is well known directors and employees earning £2,000 a year and over are specially dealt with in income tax law on this question of expenses. Broadly speaking whatever they get as a result of their employment, including wages, salary and benefits of any kind have to be added up and the total is then regarded as the director's or employee's taxable income. The director or employee, if he wants to claim that any part of that total is really an expense and should be deducted from that

total to arrive at his true income on which he will pay tax, then has to bring himself within the Schedule "E" expenses rule. This rule only regards as an expense what the person concerned expends "wholly, exclusively and necessarily in the performance of his duties" and will include money spent to meet "the expenses of travelling in the performance of those duties."

This rule has recently been roundly condemned by certain judges though of course they have to apply it. Thus in this case the court had to consider whether this £350 which the law said must be added to W.'s total income could then be deducted as an expense. The court said it could not be deducted; the cost of renting this flat was not necessitated by the actual performance of his job even though his employers required him to live there—the test is, do the duties of the work necessitate the expense and the court felt that W.'s duties as export sales manager did not necessitate this expense; moreover the expense has to be incurred "in the performance of the duties" of the work concerned—and this money was only expended to put W. in a position to carry out his duties. Furthermore the expense must be "wholly and exclusively" incurred in the performance of those duties and however conscientious W. may have been in the performance of his duties there must have been times when W. was in the flat not as an export sales manager but as an ordinary married man enjoying family life.

There is no reason to suppose that this case is not a perfectly genuine one where there is no attempt to give benefits at the general taxpayer's expense. The employers felt that an employee, given a new and important job, had to live in London where he could more easily see and meet customers, etc., and do any necessary entertaining or accommodating of them; naturally enough, moving a man to the very expensive living area that central London is nowadays, they decided to meet his increased rent by paying most of it themselves.

This case shows how difficult it is for employers to meet this kind of situation. One imagines that employers, faced with a similar situation, might feel obliged to supplement the employee's income with sufficient extra to cover the tax he will have to pay on the amount of rent that has been added on to his income; this seems a somewhat inflationary result and one which could be avoided by a reform of the expenses rule concerned which is being increasingly criticised as unfair particularly in comparison with the more generous rule for Schedule D taxpayers, that is trading concerns and self-employed people.

### 10,000TH DWELLING BUILT AT KIRKBY

Mr. Henry Brooke, Minister of Housing and Local Government, recently opened the 10,000th dwelling to be built at Kirkby for Liverpool City Council.

He said that in sheer magnitude, Liverpool had a greater slum clearance task than any other city in England. The council had built over 30,000 new houses and flats since the war, enough to house a town of 100,000 people. There was no doubt that good housing conditions could not possibly have been produced within the city itself for all the people who had found them in Kirkby.

"There will have to be more building farther afield too," he added, "if Liverpool is to get rid of all the property not fit to live in. It is an utter impossibility to rehouse on the spot everybody who has been living in the streets that are cleared."



# An Economist Comments . . .

## THE BUILDING LOAD

**EVIDENCE** is already building up that the construction boom was taking care of itself before the Chancellor acted. Quite remarkable output figures are reported for the first six months of the year; and private architects' new commissions are falling away quite markedly.

The output figures really speak for themselves. The second quarter of 1961, the official statistics show, was the best three months since the Ministry began to keep records in 1954. The index of production for the industry for April, May and June was 126, on a base of 100 for 1954. This was 4 per cent. higher than in the first quarter of 1961 and 8 per cent. higher than for the second quarter of 1960. Of course, the good building weather has had something to do with it; likewise an improvement in the availability of some key materials. And there is no denying that, whatever may be happening on individual sites, output-per-man is rising, and rising fast; probably by 10 per cent. or more since January 1960. Improved management methods are likely to have more than a little to do with this.

But it is likely that improved confidence is at the heart of this remarkable performance. In 1958, or thereabouts, many firms must have felt that they were hitting rock bottom, for it was then that the previous credit squeeze was having its full impact on the building load. Since then there has been a steady improvement, until by this year contractors, and operatives, at last found themselves in a position where they felt that they really could go flat out.

### Muddled Thinking?

In the face of these achievements it was surprising to find *The Times*, a little grudgingly perhaps, commenting that "a 10 per cent. increase in construction this year is probably more than the Chancellor wants." Why should this be so? A recent *Treasury Bulletin* freely acknowledges that, last year and this, construction has been the main growth element in the economy. It might have added that it is a growth element that uses very few imported resources, or resources urgently required by other industries. If the Chancellor should be really displeased about the industry's performance, then he must be paying lip service only to the desirability of economic growth. I do not believe for one moment that he is. But I do think that there is still a gross misunderstanding of the industry in official circles. How Ministers and civil servants, from their remote vantage points, can become dogmatic as to the amount of work an industry so heterogeneous as contracting can stand always puzzles me.

The industry embraces upwards of 90,000 firms of infinite sort and size, spread all round the country. Some are so large that they possess automatically a built-in reserve of work against a rainy day; others, in the majority, can be affected by a credit squeeze within weeks, or even days, of its announcement. The industry is not really suited to the role of economic stabiliser.

Surely contractors, and contractors alone, are in a position to judge what weight

of orders the industry can carry. Individually they may err from time to time; collectively they may do so, too, but this is less likely in the longer term. Either way, the thought of Carey Street, always in the background, must act as a powerful brake on over-exuberance. If building owners sometimes find it difficult to get work out to tender, this is all part of the process. In the ultimate, in a free economy which this Government professes to sustain, irregularities tend to right themselves. The latest information about architects' new commissions suggests that this is what is happening now.

### Less Work for Architects

For the first time in three years, two successive quarters have shown a fall in the total value of new commissions for private architects. As the R.I.B.A. surmise, the Chancellor's Little Budget will have a further depressing effect.

It is notable, too, that the type of development specifically frowned on by the Chancellor has felt the draught the

and that it is likely to remain so for some time to come.

Adjusting for price changes the total of all new orders for the first six months of 1961 was some 5 or 6 per cent. more than in the first six months of 1960. The increase in orders for public authority projects other than housing is quite striking; among other things it reflects the mounting programme for new roads. Because of the fall in architects' new commissions and the credit restrictions, it is possible that the new orders total for 1961 will turn out to be about the same as in 1960. However, I think most contractors 12 months ago would have settled for such a level.

### Report on School Building

There has been quite a spate of authoritative reports recently—Plowden, Three Wise Men, and of course, the Chancellor. Now we have 426 closely knit pages on school building from the Select Committee on Estimates.

Clearly it is impossible in these notes to discuss this document in detail. But one

Estimated Value of New Work for which Private Architects were Appointed

	1961 £ million	Change over previous quarter %	Change over same quarter of 1960 %
First quarter	282	-14	-22
Second quarter	253	-10	-7

most. In the second quarter, commissions for private offices and banks were but half what they were a year ago. Commissions for other commercial and miscellaneous buildings have also fallen even if they remain high. Private housing shows the lowest quarterly total since mid-1958, possibly reflecting mortgage, land or labour difficulties. The falls in these sectors have not been offset by an increase in public authority commissions. As for the regions, everywhere, except the South West, has experienced a fall in total commissions; in the Home Counties, the Midlands and Scotland, there is a drop of about 25 per cent. from the first quarter's totals.

Naturally, the bare figures conceal some statistical pitfalls. First, the R.I.B.A. enquiry is on a sample basis; a wide one, it is true, but subject to error none-the-less. Second, the results could merely indicate that private architects are obtaining a smaller share of the total cake; that public authorities are putting less work out to private firms; or that the "package dealers" are on the upgrade. But serious deficiencies on these scores are unlikely. The survey certainly adds weight to the view that the building load would have righted itself of its own accord; possibly around mid-1962 if present output trends continue. At any rate, it now seems clear that the Chancellor will no longer need to take that "stronger action" affecting the industry that he earlier threatened.

### More Work for Contractors

This is in no way to suggest that construction activity is in danger of imminent collapse. On the contrary, the latest details of new orders actually received by contractors show that the industry, taking all firms together, is still extremely buoyant;

or two points stand out: selective tendering, for example. Hitherto, the industry, in conjunction with architects and the quantity surveyors, has invariably come up against a brick wall on this question. However much private architects, and some Government departments, may practise it, it is evident that selective tendering—a contractor appointed from a short list of tenderers of "established skill, integrity and responsibility and with a proved competence for work of the character and size contemplated," as the Code of Procedure for Selective Tendering puts it—gets little support from the local authorities, particularly if they speak in unison.

Now, probably for the first time, an official body of some consequence has come down on the industry's side. The Select Committee specifically recommends that "The Ministry of Education should consult with the Ministry of Housing and Local Government on the possibility of amending the Local Government Acts in order to encourage selective tendering and the Secretary of State for Scotland should consider whether amendment is necessary in Scotland for the same purpose."

So far so good. The vital thing now is that this impartial advice should not go unheeded.

There are other recommendations by the Select Committee of interest to contractors. The Committee is obviously concerned that school building programmes should run continuously and as smoothly as possible from one year to the next—that contractors should not be called upon to start works at too short notice. Attention is directed to the system of serial tendering introduced by Nottinghamshire which involves a contract covering a series of projects; and to C.L.A.S.P. (Consortium of Local Authorities Special Programme) by which voluntary groups of local authorities collaborate "to obtain the full benefits of bulk purchase and prefabrication in a revolutionary system of building." The Select Committee likes prefabrication and bulk purchase. But it is concerned about the high maintenance costs associated with many of the newer schools. Maybe this pin-points a common failing; of paying too much attention to a structure's initial cost while overlooking its, perhaps equally important, costs in use.

New Orders Obtained by Contractors  
(£m. current prices)

	1st quarter	1960 2nd quarter	4th quarter	1961 1st quarter	2nd quarter
Public	61	62	69	73	64
Private	132	113	122	130	120
Other New Work:					
Public	131	121	125	157	142
Private Industrial	82	92	85	83	87
Private Miscellaneous	67	64	72	78	78
Total New Work	473	452	473	521	491

Source: Ministry of Works

## MUNICIPAL ENGINEERS VISIT QUEENSFERRY BY-PASS SCHEME

**A**N inspection of the road and bridge works in progress on the Queensferry By-pass, Flintshire, was the subject of a recent visit by the North Wales District of the Institution of Municipal Engineers.

The whole scheme, on which work commenced in the August of last year, falls into three main parts, comprising the construction of the roadworks for the by-pass; the provision over the River Dee of a 410ft.-long three-span bridge and the construction of an underpass; and the installation of main drainage both north and south of the River Dee. A pump house on the bank of the river and construction of a bridge under the Chester-Holyhead railway line will also be included in the project.

### Roadworks

Designed as a by-pass to the east side of Queensferry on the Dolgelley-south of Birkenhead trunk road (A.494), the new road will be approximately 1.7 miles in length and of an overall formation width of 80ft., comprising dual carriageways 24ft. wide, a central reservation 10ft. wide, two verges 6ft. wide, and a footpath on the western side 6ft. wide.

Work will also include the regrading, re-shaping and realignment of the existing trunk road at the northern and southern junctions; diversion of A.550 Gladstone Way for approximately 400yd. of its length; the diversion of B.5129 Sandycroft Road for approximately 300yd. of its length; the diversion of A.548 Sealand Road for approximately 120yd. of its length; and the provision of a new access road to the Midland Tar 'stillers', Ltd., works, approximately 90yd. in length.

Carriageway construction will consist of a granular sub-base filling as required beneath a cement-bound granular base, 10in. thick. Above this will be a layer of hot rolled asphalt base course, 2½in. thick, to B.S.594 Table 7, and the wearing course will be of 1½in. thick hot rolled asphalt, to B.S.594 Table 8, replaced on roundabouts and their approaches by hand-laid mastic asphalt to B.S.1447.

Early in 1956 the Ministry of Transport authorised preparation of designs for a

low-level bridge to cross the Dee. Local authorities required that the bridge be made with provision for conversion to an opening bridge, and the proposed trace of the Queensferry by-pass set the bridge on a skew and on a curve.

Reinforced concrete decking, 7½in. thick, will carry two 24ft. independent carriageways across a 416ft. gap in three spans. The side spans are 113ft. from abutment bearing to pier, and cantilever 30ft. beyond

expanded to 10ft. diameter at level 43.00 B.O.D., generally some 13ft. below the top of a stratum of stiff red clay. Nine piles support each pier and 13 piles support each abutment.

The bridge crosses the river on a skew of about 20 deg., with a highway radius of approximately one mile.

Between October, 1960, and April, 1961, 44 large diameter bored piles were sunk to founding level. They were drilled

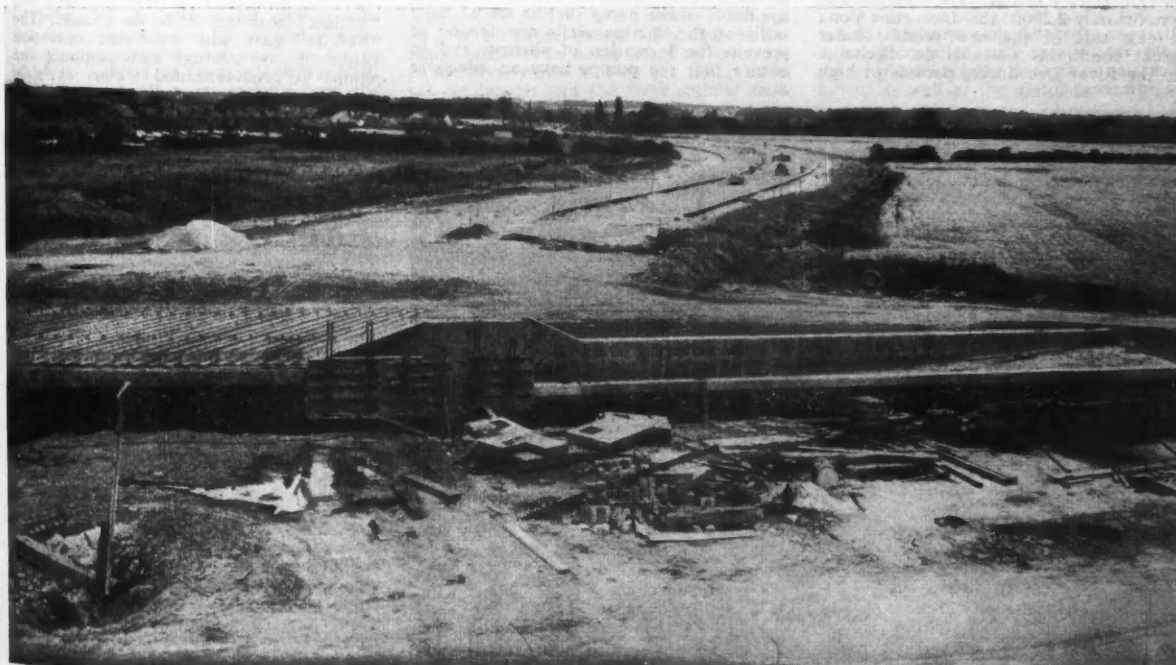


View of the by-pass, looking south

the pier bearing. The slung span is 130ft. long and will, when converted to a lifting bridge, provide a square clearance of 110ft. from L.W.L. to level 97.00 A.O.D. (Liverpool Bay).

Reinforced concrete piers and abutments are supported on 4ft. diameter bored piles,

through the overlying silty sand by rotating bucket, using the "reversed head" method to support the excavation until a steel liner could be driven into the clay. Originally the piles were under-reamed mechanically, but later this process was carried out more successfully by hand. Some difficulty was



Fox's Lane subway with cement-bound granular base construction in progress on a section of the by-pass in background

experienced from flooding through silt-seams in the clay and 12 piles had to be completed in compressed air at pressures up to 25lb. p.s.i.

The pier capping beams and abutment walls, which are interlocking but not bonded together, are generally 5ft. thick reinforced concrete, using sulphate-resisting cement because of acid sub-soil. A 1½ in. maximum gap-graded design of mix, nominal 7:1, has given 28-day works cube strengths averaging 5,880lb. p.s.i. to date.

#### 8ft. Girders

Each carriageway is carried independently on three welded plate-girders, generally 8ft. deep. Girders are anchored at each abutment only, longitudinal movement over the piers being taken up in distortion of 3in. thick Freyssinet interleaved rubber pads. Overall expansion is catered for in a lateral sliding joint at the southwest end of the slung span, the bearing being on 4in. thick Freyssinet pads capable of distortion of about 2in. in each direction.

The girders are received at the site in sections, and connected up by groups of Torshear bolts. The 130ft. slung-span girders weighing 26½ tons each are bolted up on a launching trolley on top of the eastern carriageway girders, winched forwards, and slung into position by a 10-ton and a 20-ton derrick. A heavy transom girder and light diagonal bracing secures each set of three road bearers together.

Carriageway decks are independent, each spanning over three roadbearers with footway and central-reserve cantilevers, with 6ft. precast slabs bridge between.

The abutment slab does not bear on the wing walls, but spans longitudinally from the transverse beams on to compacted fill behind the abutment.

Included in the contract for the road and bridge works is the construction of an underpass, consisting of a composite deck construction of prestressed units with reinforced concrete deck slab and infilling on mass concrete abutments with mass concrete wing walls. The square span is 24ft. 6in., the width between parapets is 100ft., and a small pumphouse and drainage sump is incorporated.

#### Drainage

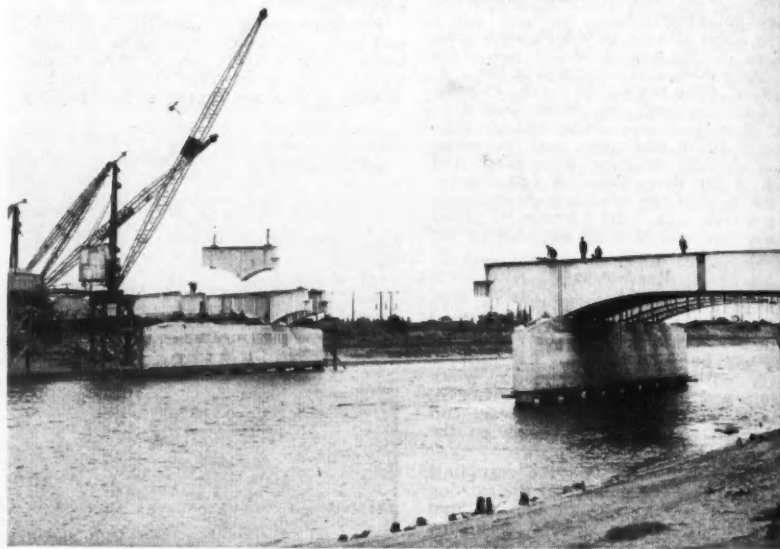
Surface water drainage of the Queensferry area, and the higher land to the south, flows along a watercourse known as the Queensferry Drain and is discharged into the River Dee through a gravity outfall situated a short distance upstream of the new Queensferry Bridge. For a distance of approximately 2,200ft. the drain runs along the east side of the new road. Under present conditions there is no discharge into the River Dee during periods of high

tide, the water arriving during tide lock being stored in the channel.

The new by-pass will pass under the main Chester-Holyhead railway line a short distance to the east of Queensferry Station. To obtain the necessary head clearance at this bridge it has been necessary to construct the road at a lower level

supply of water down to the lowest pumping levels. To limit the chances of malicious damage glass block panels are to be used in place of windows in the superstructure.

Pumps will deliver into a 5ft. square reinforced concrete discharge culvert which will be filled with a non-return greenheart



Queensferry Bridge, view from south bank showing positioning of pier girder

than the existing bank level of the Queensferry Drain.

In order to ensure that this low section of road was not flooded from the Queensferry Drain during periods of tide lock and heavy rainfall it was decided to construct an automatically operated pumping station at the point where the drain discharges into the river.

The pumping station now under construction has a reinforced concrete substructure and a brickwork superstructure. Because of the nature of the ground it has been necessary to use de-watering equipment throughout the construction of the substructure, and for the same reason pressure relief valves have been built into the floors of the pump suction wells. Back walls of the suction wells are shaped to prevent the formation of vortices and so ensure that the pumps have an adequate

timber flap valve at each end. When the pumps are not working and the water is being discharged by gravity both valves will be open. When the pumps are working the upstream valve will automatically close and the downstream valve will be opened by the hydraulic head generated by the pumps.

The house is large enough to house three pumps but at present only two are being installed, the third pump will be installed as the run-off from future development demands. The pumps will be 33in. diameter vertically mounted axial flow each capable of discharging 50 cusecs. (18,700 g.p.m.) against maximum tide level in the River Dee. Squirrel cage motors of 105-h.p. operated through star delta starters and "Noflote" gear will drive the pumps. The "Noflote" gear will make the operation automatic by starting and stopping the pumps at predetermined water levels in the Queensferry Drain. Power factor correction capacitors and starting delay relays are included in the electrical equipment.

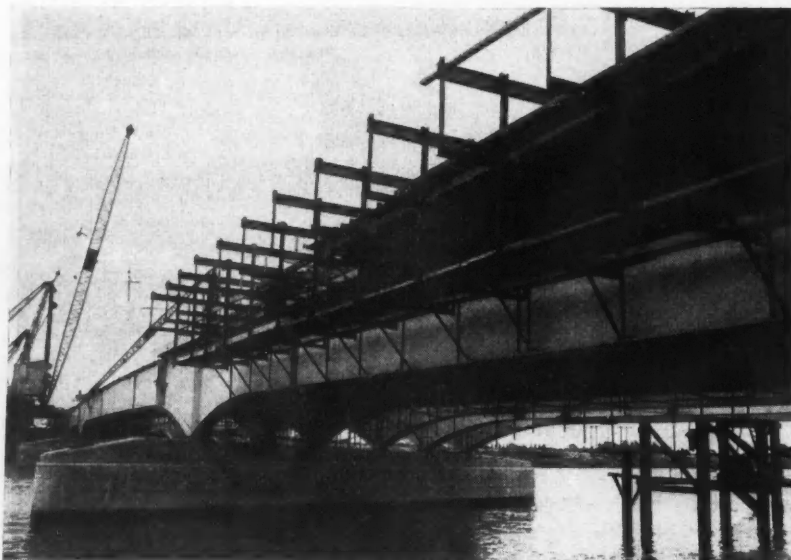
North of the River Dee the drainage scheme calls for the construction of a main storm water drain varying in diameter from 15in. to 24in., and an outfall into the River Dee, with connections from road gullies and land drains. About 90yd. of concrete culvert, 3ft. 9in. in diameter, will also be provided.

South of the river work provides for interception of main drainage ditches and construction of a main storm water drain averaging 3ft. in diameter, with a maximum diameter of 3ft. 9in., and connections from road gullies and land drains. The main drainage outfall will be via a 4ft. 9in. square reinforced concrete box culvert discharging under the new railway bridge and then in open ditch to the pumping station.

#### Railway Bridge

The new railway bridge occupies the site of an existing single-span bridge, approximately 14ft. between abutments, which allowed the passage of an old mineral line beneath the railway embankment. The centre trestle of the new bridge is roughly in the centre of the old span, although at a different skew.

(Concluded on page 1562)



View of Queensferry Bridge from south abutment, showing shuttering support for west side pavement slab



## CIVIL ENGINEERING NEARS COMPLETION AT HINKLEY POINT

**H**EAVERY civil engineering works at the £65m. nuclear power station under construction at Hinkley Point, Somerset, are now almost complete, and fuel-loading of the first reactor is expected to begin in the February of 1963.

With an output of 500-MW, the power station will be the first of its size in the world when completed, although a larger station, with a 580-MW capacity, is already under construction by the same group of contractors at Sizewell, Suffolk. The two reactors at Hinkley Point will be of the graphite-moderated, gas-cooled type, fuelled with natural uranium.

The reactor pressure vessels which operate at a pressure of 180lb./sq. in. are 67ft. diameter spheres fabricated on site from 3in. steel plate. They are enclosed in a reinforced concrete biological shield 7ft. thick by over 75ft. across and approximately 90ft. high. In order to blanket the holes in this shield which are necessary for the 6ft. 6in. diameter inlet and outlet gas ducts, a secondary shield 6ft. thick and approximately 100ft. wide by 140ft. long is built around it.

Since construction first began in December, 1957, a total of 700,000 cu. yd. of shale and limestone have been excavated; 300,000 cu. yd. of reinforced concrete laid; and 24,000 tons of steel reinforcement and structural members incorporated in the power station. In No. 1 reactor concrete is now being poured to form the 5,000-ton 11ft.-thick pile cap structure above the pressure vessel, which will form the main fuel charging and discharging floor 100ft. above ground level, and laying of the graphite core is about to commence.

### Cooling Water System

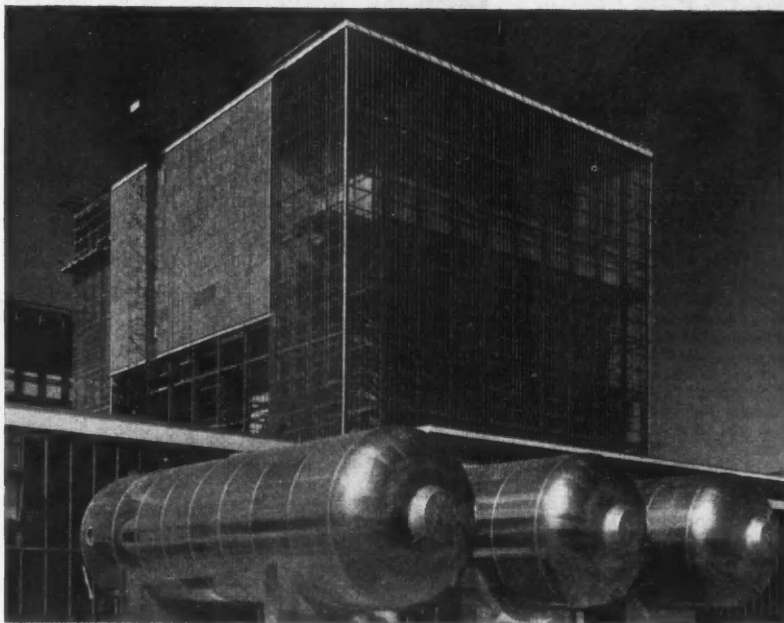
A main construction feature, the cooling water system, incorporates an intake structure some 2,000ft. offshore connected by tunnels to a deep pumphouse onshore, distribution culverts and discharge works at the east end of the site. While the station requires 35,000,000 gallons of water an hour for cooling purposes, this intake structure is large enough to serve future developments and can take in 85,000,000 gallons an hour.

The station shore line, and land on each side of it, is permanently protected by a 3,500ft.-long concrete sea wall, the top of which is +29ft. O.D. level, which was built early in the contract to reclaim from the

sea the area of the turbine hall and pumphouse. The storage tanks and the chlorine injection equipment which is necessary to prevent marine life from fouling the tunnels, pumps and condensers are also installed. In the 70ft. deep pumphouse the cooling water pumps and motors are now ready to deliver cooling water to the system by six 72in. bore vertical centrifugal

are in various states of assembly; the two dump condensers are in position.

Four main-set generator stators, with two of the smaller stators, are already delivered, and eight of the boiler feed pumps are installed in the basement. In the transformer annexe are two 11-MVA station transformers, four 110-MVA generator transformers and all the auxiliary



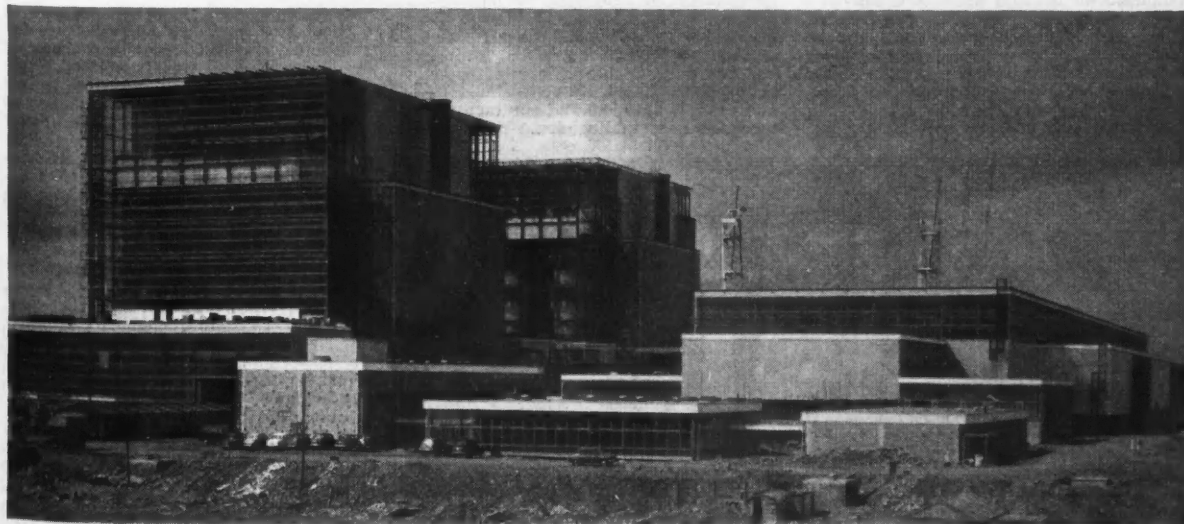
No. 1 reactor building, with CO<sub>2</sub> storage tanks for the coolant gas re-circulatory system

pumps, each having a motor of 1,750-h.p., with a delivery capacity of 96,000 g.p.m.

Between the reactor buildings and the sea is the 740ft.-long turbine hall, which is almost complete; the steelwork superstructure is covered in its glass and aluminium sheeting, and the 150-ton and 40-ton Babcock cranes are being used for the erection of the six main English Electric 93.5-MW and three auxiliary 33-MW turbo-generators. The first of the main turbines is being installed over its condensers, while four of the other main set condensers and the three smaller ones

transformers. Most of the switchgear has been fitted in the electrical annexes, and some of the instrument panels are now in the main control room.

The first reactor building is virtually complete, with passenger and goods lifts in operation, and with plant being installed to deal with loading of the uranium fuel and the instrumentation for the reactor. Equipment for detecting faulty fuel elements (the burst slug detection apparatus) is being installed, and precipitator panels are in place together with their associated tubing as well as the motor-generator sets



The two reactor buildings seen from the seaward side, with administration blocks in the foreground

for the control rod motors. All six main gas-circulator casings for the reactor are in position, and some of the rotors for other circulator pumps are already on site.

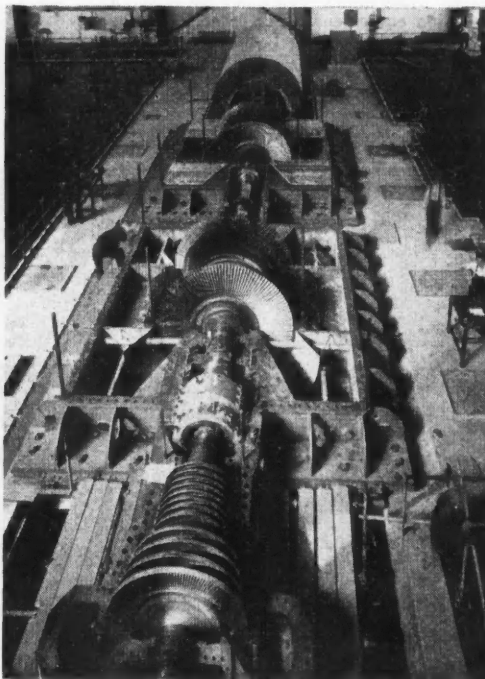
Within the shielding walls the 67ft. diameter pressure vessel, fabricated on site, is complete and has been successfully stress-relieved and pressure tested. It is now fitted with standpipes and nozzles while, inside it, the support plates for the graphite core are being installed. The six Babcock boiler units for this reactor are now tubed, each complete boiler with its 22 miles of tubing weighing 1,200 tons, and the 6ft. diameter steel gas ducts between the pressure vessel and the boilers are being fitted prior to the testing, early next year, of the circulators and main carbon dioxide gas circuit.

In the second reactor building work is proceeding on pressure vessel and heat exchangers. The main gas-circulator houses are complete, and all six main drive motors for the circulators have been delivered. This pressure vessel has also been stress-relieved, and has successfully undergone its pressure test. The standpipes are being welded to the nozzles, and the erection of the gas ducting is proceeding.

South of the reactors, the laundry building is complete and the decontamination and radioactive effluent treatment buildings are nearing completion, while work is progressing on the cooling ponds. These auxiliary buildings are clad in compositions of glass, aluminium, plain concrete, coloured fibreglass and exposed aggregate concrete slabs.

East of the reactors the diesel-generator house—with its five diesel stand-by generators for supplying emergency power to blower pony motors and shield-cooling fans—is completed, and the five 900-h.p. English Electric diesels and motor-generator sets are installed. The 400-ton Goliath crane is being dismantled ready for transportation to the site of the nuclear power station at Sizewell.

The C.E.G.B. are occupying the administration block, and general finishing work is taking place on the canteen, welfare block and uranium fuel store. Work is proceeding on the installation of cabling and instrumentation, pressure steam pipe-work, condensate, fire protection service



One of the main hydrogen-cooled turbo-alternator sets being assembled in the turbine hall

water, and station drainage systems.

At present, there are about 2,100 men employed on the site, of whom 500 are accommodated in the camp.

The Hinkley Point nuclear power station is being constructed for the Central Electricity Generating Board by the English Electric, Babcock and Wilcox, Taylor Woodrow Atomic Power Group.

## FIVE-STORY BEDFORD FLATS FOR THE AGED

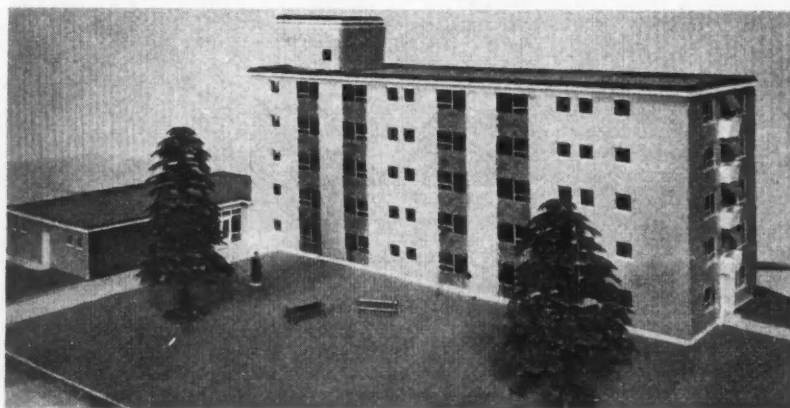
**T**WO five-storey blocks of old people's flats, planned as part of the central redevelopment scheme, are now being completed for Bedford Borough Council.

Each block will have 28 bed-sitting-rooms, nine double-bedroom units and a warden's flat. Electric low-temperature under-floor heating is being installed and one block will have communal facilities, i.e. a television and tea-making room.

Each flat will have its own bathroom,

kitchen and toilet and accommodation is arranged off a central corridor so that each flat gets some sun.

The structure, designed by Mr. F. W. Dawkes, Bedford borough engineer and surveyor, is of load-bearing brickwork with reinforced concrete floors and staircase. The roof of each block is insulated and bathrooms mechanically ventilated. Contract price is £119,980 and contractors are Robert Marriott of Rushden.



A model of a completed block

(Concluded from page 1560)

Work began by reducing the level on the old mineral railway embankment through the existing bridge, and strutting out between abutments at the new ground level, approximately 8ft. below the underside of the proposed new deck. Excavation was carried out down between the old bridge abutment for a new strip footing to carry the centre trestle. This trestle was redesigned during the course of work, and the excavation for it was taken down to +8.00 in running sand with the use of dewatering equipment.

Temporary reinforced concrete step foundations were provided on each side of the embankment and military trestling was erected in single bents of columns to support the new bridge spans.

The bridge decks were fabricated on the trestling with steel main girders and cross-girders, eight spans to each side of the embankment. Finally the bridge decks were concreted and waterproofed.

On weekend occupations of the two centre tracks, panels of No. 2 Larsen sheet piles 20ft. long were driven down the centre line of the bridge. Two-week occupations of these tracks allowed boring down between the tracks from embankment level of +35.50 to a level of -3.00 for 6ft. diameter piles, of which there were four in the centre row. These piles were spaced between panels of Larsen sheet piling, using reverse heads of water to counter running sand below level of +14.00. The shaft was lined with ½in. steel cylinders to a depth of +12.00.

Concrete piles were provided under-water using tremi-pipe and a pneumatic concrete pump to a level of +32.00 for abutment piles, and +13.00 for intermediate piles. The precast concrete columns were placed in the intermediate pile shafts, and then concreted around the base to locate them in position.

A four-weeks' occupation was given to the two outer tracks on the south half of the bridge. During this period the tracks were removed, and boring down was carried out for eight piles, the same procedure being followed as previously described. After the precast columns had been placed, the top of the embankment was excavated down about 7ft. to clear the underside of the new bridge.

Concrete trestle heads were provided for half the bridge width, and rolling-in gear, rails and trollies were placed in position, when the eight spans for the southern half of the bridge were rolled in. Excavation was then carried out at each end of the bridge for concrete block anchors and thrust beams, the track was reinstated, and the southern half of the bridge opened to double line traffic. The whole procedure was then repeated for the northern half of the bridge under a similar four weeks occupation.

Finally the dumping was excavated out from under the bridge, slopes were graded, and ground beams were concreted at the base of columns. The new box culvert was then extended through under the bridge opening.

### Consultants and Contractors

The whole of the works are promoted by the Ministry of Transport. As agent authority, Flintshire County Council (county surveyor: E. W. W. Richards, A.M.I.C.E., A.M.I.Struct.E., A.M.I.Mun.E.) are responsible for the roadworks, and bridgeworks are being carried out under the supervision of Mott, Hay and Anderson, consulting engineers, London, S.W.1. The Dee and Clywd River Board are responsible for the pumphouse, and British Transport Commission for the railway bridge.

John Howard and Co., Ltd., 13 Buckingham Gate, London, S.W.1, are the contractors for the roadworks, the river bridge and the underpass. The contractors for the pumphouse are Lehane, MacKenzie and Shand, Ltd., Normahurst, Matlock, Derby., and the railway bridge was constructed by British Railways (Bridge Section and Direct Labour, Manchester, and District Engineer, Bangor).



## NO EXTERNAL COLUMNS IN 10-STOREY BLOCK

### Solid In Situ Reinforced Concrete Walls

A SYSTEM of solid in situ reinforced concrete external walls, punctuated by windows and having no columns, has been used in the construction of a new 10-storey block of offices at 27-29 Albert Embankment, London, S.E.11.

The block, Prince Consort House, leased from Albermont Properties, Ltd., by the British Shipbuilding Research Association, rises to a height of 110ft. above two basement floors. It is quadrilateral on plan and has a total volume of 550,000 cu. ft. Each floor is designed as open office space, with the lifts, stairs and main service ducts grouped together at one end.

Structurally independent of its neighbouring buildings, the block has six reinforced concrete columns arranged in a double row internally, to give bays measuring 16ft. 4in. longitudinally and an average of 17ft. 6in. transversely. Solid in situ reinforced concrete floor slabs have been used, spanning between the external walls and the columns. All beams are contained within the thickness of the slabs; there are therefore no down-standing projections.

A survey was made of different types of floor construction and it was decided that, in this instance, the in situ flat concrete slab would be the most economical. The slab is 7½in. thick and it is interesting to note that this thickness is more economical than a 6½in. slab, which could have been used but would have resulted in increased shear forces and required considerably larger internal columns.

The external concrete walls above ground are generally 7in. thick. Wood-wool was used as permanent formwork for their inner surfaces, giving a total wall thickness of only 9in. and a very good thermal insulation value ( $U=0.18$ ). The external formwork to the front and rear walls was made in

16ft. by 10ft. panels and raised to the required level by a system of winches.

This system of construction enabled a complete storey, including walls, columns and floor slab, to be completed every 10 days. The monolithic character of the in situ concrete structure also enabled internal and external finishes to proceed simultaneously from the ground floor upwards.

#### Plant Room

Mechanical ventilation is provided on all floors, with a plant room situated on the roof. The plan of the plant room, however, does not in any way coincide with the structural system below. It was therefore necessary to provide twin prestressed concrete lattice beams, spanning 84ft. from end to end of the building, to form the walls of the plant room; the beams are independent of the main structure below.

The plant room is roofed with canti-

levered canopies, designed to give a "floating" effect; no external columns were therefore permissible in this roof structure from the architectural point of view.

A lattice form of beam was chosen because large openings are required for air intake and extract. The beams are of in situ concrete post-tensioned on the CCL system, each carrying a load of 100 tons. The end connections between the lattice beams and the main structure below were detailed to allow for free horizontal movement and rotation.

Secondary roof beams support the canopies which are cantilevered out 10ft. These beams are also of in situ concrete, post-tensioned on the same system in order to keep the depth of the beams down to the required minimum; they were really the deciding factor in the whole system of stressing for the plant room structure.

The concrete used in all these beams has a specified 28-day cube strength of 7,500lb./sq. in., the remaining concrete in the building having a specified strength of 4,000lb./sq. in.

Prestressed concrete rails are cantilevered over the parapet of the building for window cleaning.

#### Finishes

The external faces of the building are divided into bays to facilitate the jointing both of the structural and facing materials. The joints are formed with extruded anodized aluminium channels. The external facing material is of variegated mosaic, and in order to use the Swedish "Modocoll" system of adhesion, which involves the use of a thin screeding containing "Modocoll" additive to perfect the bond, a tolerance of ±½in. was specified for the concrete in the external walls.

Windows throughout are double-glazed with special aluminium extrusions and plastic sealing strips.

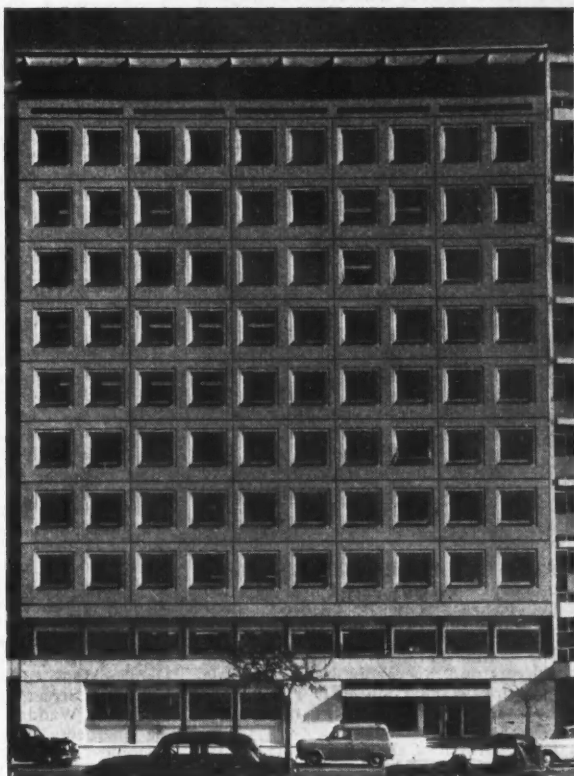
Internal finishes include terrazzo on the main staircase and acoustic ceilings to the office areas. Walls generally are plastered, except for dados of white glazed tiles in the lavatories. Office floors are covered with p.v.c. tiles.

The final contract price was £178,889, giving a cost of 70s. per sq. ft. of floor area.

#### Consultants and Contractors

Prince Consort House was designed by Clive Pascall, Peter Watson and Associates, 24 Half Moon Street, London, W.1, with Cyril Blumfield and Partners, 82 Victoria Street, London, S.W.1, acting as consulting engineers. The quantity surveyors were C. E. Ball and Partners, 36 Fitzroy Square, London, W.1.

Gee, Walker and Slater, Ltd., 100 Park Lane, London, W.1, were the main contractors.



Front elevation of the building

## CHISWICK FLYOVER CLOSURE DURING MOTORWAY CONSTRUCTION

THE Ministry of Transport have announced that the Chiswick Flyover on the Great West Road will be closed for three to four months when the time comes to connect it with the viaduct section of the London-South Wales Motorway.

This has been decided by the Ministry of Transport and the Metropolitan Police following a recent experimental closure of the Chiswick Flyover for one day to see how best traffic could be handled when this stage of the work is reached.

Construction of the 1½-mile long viaduct over the Great West Road should start early next year; and work is already in

hand on alterations to the Great West Road itself to accommodate the viaduct supports in the central reservation. As a result, restrictions have had to be imposed on traffic using the road immediately west of the Chiswick Flyover, and these will continue, in some degree, for the duration of the work.

The final phase of the viaduct construction, when the elevated motorway will be linked with the Chiswick Flyover, will necessitate closure of the Flyover, either completely for a relatively short period—three to four months—or partially for a considerably longer period, possibly a year.

In either case, there would be some restriction of traffic, but partial closure would be both more costly and more difficult from the engineering point of view. It has now been decided that complete closure over the shorter period would be the better arrangement.

The Ministry and the police are confident that the traffic can all be accommodated on the ground-level roundabout, if its lay-out is modified and if temporary traffic signals are installed. The extent to which these restrictions slow down traffic will, of course, depend on the volume of traffic; and it is hoped that motorists will avoid the area as far as possible while the work is in progress. Adequate warning will be given before the flyover is closed, and alternative routes have already been signposted in connection with the works now in progress.



## CONSTRUCTION ACCIDENTS — ANOTHER BLACK YEAR

### Inspector of Factories' Annual Report

**T**HE number of reported accidents on building operations, which has increased steadily since 1951, reached the highest total yet recorded in 1960.

According to the Annual Report of the Chief Inspector of Factories for 1960, accidents reported from building operations totalled 16,934, of which 217 were fatal. The corresponding totals for 1959 were 15,410 and 169.

From works of engineering construction, 3,650 accidents were reported, including 60 deaths. If the 879 accidents, including 19 deaths, on work which was brought within the scope of the Factories Acts by the Engineering Construction (Extension of Definition) Regulations, 1960, which came into effect on May 15, are excluded from this figure, both total and fatal accidents on this type of work were slightly less than in 1959.

Of the building accidents, 6,633 or 39 per cent. of the total and 101 or 46 per cent. of the deaths, occurred during the construction, maintenance and demolition of industrial buildings. Among works of engineering construction, work on pipelines and sewers—657 accidents, of which 17 were fatal—and on roads and airfields—554 accidents, including 13 fatal—were the categories from which the greatest numbers of accidents were reported.

Again falls from heights, both of persons and materials, caused a high proportion of all accidents on construction work. In 1960, 4,471 accidents on building operations were caused by persons falling from heights. Of these, 142 were fatal, and accounted for two-thirds of all fatal accidents on this work. A further 1,133 accidents, including 21 deaths, were due to materials falling from heights.

The report states, "A campaign to reduce accidents on building operations must be largely directed towards preventing persons and materials from falling from working places, and of providing safe means of access to such places. Many of the accidents from falls which occurred during the year could have been avoided

if the requirements of the Building (Safety, Health and Welfare) Regulations had in all cases been properly observed."

#### Minister's Concern

Speaking at a conference in London, held in connection with the publication of the report, Mr. John Hare, Minister of Labour, expressed "serious concern" at the continuing rise in industrial accidents, and called for a united effort by industry to secure a reduction.

In 1960 accidents increased for the second year in succession. The total of over 190,000 was the highest for 10 years and included 675 fatal accidents.

Mr. Hare said that for the building and civil engineering industries he had a Joint Advisory Committee which would be meeting shortly. Accidents in those industries had been increasing for many years now and there was a heavy toll of deaths. New regulations which he had just made and which covered both industries for the first time come into force next March. Before then, in consultation with the leaders of both sides he would consider how we could get across to all concerned, management and workers, the need for new and more vigorous efforts to cut the accident rate.

The Minister added that the most serious feature of the report was the big increase in accidents to young people. In 1960 there was an increase of 15 per cent. over the previous year and it was imperative that special efforts should be made to ensure that this upward trend did not continue.

#### Call for Action

H.M. Chief Inspector of Factories, Mr. T. W. McCullough, O.B.E., said that his report for 1960 provided a "stern call to action for us all." On construction, there must be greater appreciation of the dangers, stricter compliance with the new regulations and better accident training of new entrants to the industry.

Building and civil engineering, he stated, had made the lamentable contribution of 41 per cent. of the fatalities.

#### I.O.B. EXAMINATION REPORTS

The Institute of Builders state that the reports of the principal examiners, on the first examinations held in June 1961 under the revised scheme, published in July 1960, reflect much credit both on the successful candidates and on the considerable number of colleges which at very short notice offered courses for the Final Part II Examination in Management Subjects.

"The excellent response from colleges in providing courses in management subjects within a month or two of the publishing of the new syllabuses accounts for the pass percentage of 38.59 per cent., comparing favourably with an average over the past few years of 40.4 per cent. for the old Associate Diploma Examination, which the new examination replaces," says the I.O.B.

The total of 171 candidates presenting themselves for the Final Part II examination leading to A.I.O.B. is the greatest number recorded since the Associate Diploma examination was first held in 1927.

#### HEALTH COMMITTEE REVIEW BUILDING POLICY

In view of increasing building costs Hampshire County Health Committee have decided to review their policy of providing new stations in traditional methods of construction and to investigate the possibility of making other "and less costly" arrangements for the garaging of ambulance vehicles.

#### FACULTY OF ARCHITECTS AND SURVEYORS

##### London Branch Reception

The London Branch of the Faculty of Architects and Surveyors last week held a reception at 68 Gloucester Place, W.1, to mark the commencement of another Season of events.

The chairman of the Branch, Mr. D. W. Smellie, accompanied by Mrs. Smellie, welcomed a large gathering of members and guests, among whom were the president, Mr. W. R. Cubitt; Lord Bosson; Lord Teynham; Mrs. M. A. Montgomery, managing director of the Building Exhibition; the immediate past president, Mr. Sydney Clough; the president-elect, Mr. E. H. Turner; and the general secretary, Mr. H. M. Soar.

#### N. IRELAND HOUSING TRUST REPORT

The annual report of the Northern Ireland Housing Trust for 1960/61 says that building progress during the year was disappointing. The autumn and winter were extremely wet and skilled labour was scarce, particularly in the Belfast area, where many sites were under-manned.

Fresh contracts for 2,254 dwellings were let during the year and 1,505 houses were completed. On March 31, 1961, the number of houses being built, or under contract, was 3,797.

### Late Construction News

**BRADFORD DWELLINGS.**—The tender of John Laing Construction, Ltd., at £544,376, has been accepted by Bradford City Council for the erection of 268 dwellings, 108 external stores, nine shops and 63 garages at Holme Wood Estate.

**£14M. DERBY HEADQUARTERS.**—British Transport Commission have announced that they have placed a contract with William Moss and Sons, Ltd., Loughborough, for building British Railways' £14m. engineering laboratories and research department headquarters at London Road, Derby.

**ORDER FROM EGYPT.**—A £500,000 order from Egypt has been placed with International Harvester Company of Great Britain, Ltd. The order calls for 52 BTD-20 crawler tractors, 26 B-20G-3 Bull-grader attachments, 19 10/14 Sterling scrapers, seven 8/11 Sterling scrapers, and nine BTD-6 crawlers.

**HEMEL HEMPSTEAD BOWLING CENTRE.**—Work will start next month on the erection of a bowling centre, with a multi-storey car park above, at South Marlowes Road, Hemel Hempstead. The scheme is promoted by Transworld Bowling, Ltd., and the contractors are M. J. Gleeson, Ltd., London Road, Cheam. Plans have been prepared by Fuller, Hall and Foulsham, 212 High Holborn, London, W.C.1.

**STOKE HOUSING.**—Two tenders from Seddon (Stoke), Ltd., 55 Duke Street, Stoke-on-Trent, have been accepted by Stoke-on-Trent City Council for housing at Burslem. Forty-six dwellings are to be erected at Port Vale Street at a cost of £78,374, and 40 at Sant Street, £66,682.

**ROADSTONE PLANTS CONTRACT.**—Stothert and Pitt, Ltd., Bath, have won a £100,000 contract to supply three proportioning and coating plants for Amalgamated Roadstone Corporation. They are to be installed at the Corporation's Criggon, Hingston Down and Borough Green quarries.

**HEMEL HEMPSTEAD FACTORY.**—The contract to build a single-storey factory and warehouse at Hemel Hempstead, Herts., for John Dickinson, Ltd., is to be placed with John Laing Construction, Ltd. Work is likely to cost about £700,000, and is expected to commence next month. The consulting engineers are Frederick Snow and Partners, 144 Southwark Street, London, S.E.1.

**WINCHMORE HILL OFFICES.**—Tersons, Ltd., have been awarded a £208,000 contract by Rodwell Estates, Ltd., for the erection of an office building on the site of the old Capitol Cinema, Winchmore Hill, London, N.21. Work will start shortly. The consultants are: Raymond Spratley and Partners, architects, 9 Hertford Street, London, W.1; Reddick and MacDonald, quantity surveyors, 119 Victoria Street, London, S.W.1; and Bylander, Waddell and Partners, consulting engineers, 169 Wembley Park Drive, Wembley, Middx.

**LONDON STORE RECONSTRUCTION.**—Tenders are now being invited for the reconstruction of Gorrings's store at Buckingham Palace Road, London, S.W.1, estimated to cost about £1m. J. and A. Demolition Co., Ltd., Regents Corner, Wellington Road, London, N.W.10, are about to begin demolition work on the site. The architect is Morris de Metz, 29 Gloucester Place, London, W.1.

**ROTHERHAM FACTORY.**—G. L. Willan, Ltd., have awarded a contract to Tarmac Civil Engineering, Ltd., Upper Wortley Road, Rotherham, for the erection of a factory off Sheffield Road, Catcliffe, Rotherham. The consulting engineers are Husband and Co., 388 Glossop Road, Sheffield, 10.

**STEEL MILL FOUNDATIONS.**—A contract is shortly to be placed with Turfiff Construction Corporation, Ltd., Warwick, for the foundations of a new steel rolling mill at Aldwarke, Rotherham, for Park Gate Iron and Steel Co., Ltd. This is a further stage in the steelwork company's £33m. expansion programme. The consulting engineers are Bylander, Waddell and Partners, Wembley.

# MULTI-STOREY REDEVELOPMENT AT CRAYFORD

## U.D.C. Faced with Land Problem

THREE 13-storey tower blocks of flats, believed to be the first of their kind in Kent to be developed by a local authority, were shown to members of the Kent Surveyors' Association at Crayford last week. Accompanying the party were the Chairman and members of the Crayford Urban District Council and Mr. Norman Dodds, Member of Parliament for Erith and Crayford.

Many of the visitors are faced with the same redevelopment problems as the Crayford Urban District Council, whose engineer and surveyor, Mr. G. G. Anderson, M.I.Mun.E., M.Inst.H.E., M.R.San.I., is responsible for the present £600,000 scheme which, with 263 new homes, more than doubles the previous number on the 5½-acre site.

In the last 40 years Crayford's population has risen from about 10,000 to over 30,000 and as a third of the district is Metropolitan Green Belt which cannot be built upon, building land costs around £10,000 per acre. The Council at present have only 4½ acres of vacant land to develop, in addition to which are some 11½ acres of clearance areas which will not become available for some years. The site being redeveloped is at Arthur Street, Slade Green, which was formerly occupied by 130 early 19th century narrow-fronted terrace houses long condemned as unfit for human habitation.

### Self-contained Community

The development, which forms a self-contained community, includes three 13-storey blocks. Two of these blocks each contain 51 one-bedroom flats, 25 two-bedroom flats, and a bed-sitting room flat, while the third has 25 one-bedroom flats, 51 two-bedroom flats, and a bed-sitting room flat.

There are also two four-storey blocks, one with 16 three-bedroom maisonnettes, and the other with 10 three-bedroom

maisonnettes. A three-storey block has two shops and four three-bedroom maisonnettes, together with two bed-sitting room flats.

Rents, which include rates, underfloor heating, use of laundries and lifts, lighting of staircases, the services of a warden and his assistant, and maintenance by the Council of the estate, lawns and gardens, are £2 7s. 4d. for a bed-sitting room flat, £2 11s. 10d. for a one-bedroom flat, and £2 15s. 1d. for a two-bedroom flat in the tower blocks. In the three-storey block the rent of a bed-sitting room flat is £2 8s. 7d.; and a three-bedroom maisonnette costs £2 18s. 11d.

The figures quoted are weekly rents based on a 50-week year, and they are not related to the cost of the scheme. The Crayford Council operate a scheme of rent pooling by which the basic net rent of each property is the "pooled rent" calculated upon the average cost of providing all accommodation, i.e., the rent is related to the total net annual outgoings and a fair ratio between the rents of all properties is established by calculating rents on the basis of the gross value for rating of the properties.

A new Baptist Mission Hall (built by separate contract), stores, 92 garages, as well as plentiful parking space, form part of the development. Three new electricity sub-stations are also being provided.

The elevational treatment of the buildings is varied by the use of Canterbury chippings and Derbyshire spar dry dashing.

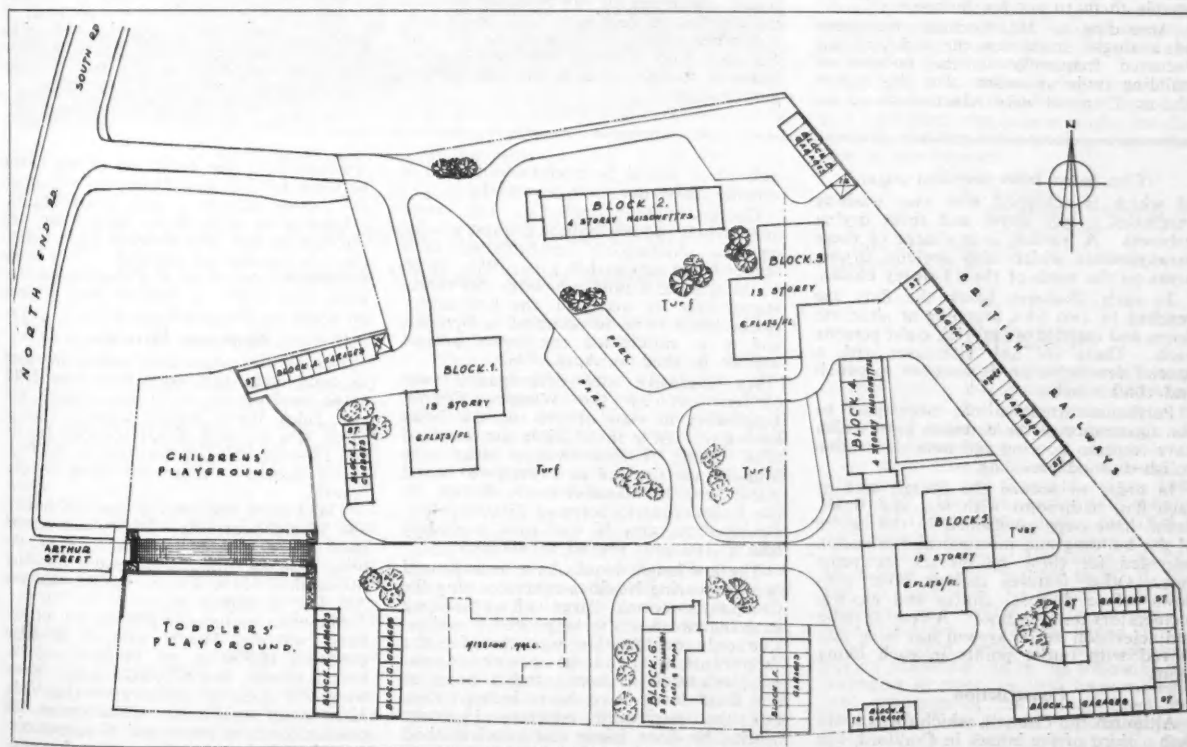
Apart from the underfloor electric heating in halls and living rooms, the cost of which is included in the rent, each living room has 2-kW electric fire. Hot water in the kitchens and bathrooms is provided



One of the 13-storey blocks

by immersion heaters under the tenant's control.

Laundries to serve the estate are on the ground floor of the 13-storey blocks, each (Concluded on next page)



Layout of the Arthur Street redevelopment



## ONE OR TWO AGREEMENTS

### The Labour Unions State Their Case

From Our Labour Correspondent

THE leading article in our issue of September 14 dealt with the disagreement between the craft and labour unions as to whether there should be unity of organisation and a merging of the building and civil engineering wage agreements. So far the craft unions have made most of the running on this issue. But recently the two main labour unions, the Transport and General Workers' and the National Union of General and Municipal Workers, have in their respective journals stated the case of the labour unions.

The early history of the struggle to organise the workers in the building and civil engineering industries is described by Mr. Tony Corfield in the *T. and G. W. Record*. And fascinating it is. A series of attempts at organisation were made during the nineteenth century only to be met by setbacks and disappointments. In those days of poor educational facilities both the labour and the craft operatives suffered the same difficulty of finding literate leadership from their own ranks. But they certainly did not lack resolve and grew stronger with each attempt at organisation. The final break-through was achieved in 1889 when the National Union of General and Municipal Workers and the Transport and General Workers' Union were established.

#### Tougher Task

Mr. Corfield remarks that labourers and navvies had to face a tougher task in the struggle for organisation than the craftsmen. They had not only to overcome the resistance of the employers, but also the lack of faith in them among the craftsmen in their own industry. A striking example of this antipathy occurs in an official explanation of the policy of the Builders' Grand National Guild in 1833 which stated that the Guild should include labourers "as soon as they can be prepared with better habits and more knowledge to enable them to act for themselves."

According to Mr. Corfield the theme of a single union for the industry has recurred frequently in the policies of building trade unionism. For this reason the craft unions were reluctant to accept

the labourers' unions in the Federation of Building Trades Operatives when it was formed in 1918 unless they combined in a single labourers union.

Such an amalgamation did occur in 1919 when the National Amalgamated Builders Labourers' Union and the Navvies' Union joined together in the Altogether Builders Labourers' and Constructional Workers' Society. But this amalgamation was short lived for when Colonel Ward the president of the Navvies' Union returned from the war of intervention in Russia he succeeded in extracting a minority of his membership from the amalgamation, and in order to assert his independence still further he took the lead in initiating a separate agreement with the civil engineering employers. Thus was laid the foundation for the Civil Engineering Conciliation Board.

This Board, according to Mr. H. E. Matthews, national industrial officer of the National Union of General and Municipal Workers, operates with the flexibility necessary to deal efficiently with the problems inseparable from the nature and location of the work undertaken by the civil engineering industry.

#### Essential Differences

Mr. Matthews deals with what he calls the essential differences between building and civil engineering. Building he says is still essentially a localised industry with a predominantly craft labour force employed by thousands of small to medium sized firms each serving a limited area. Civil engineering, on the other hand, is much more national in scope with a necessarily highly mobile labour force composed largely of labourers and semi-skilled operatives handling and servicing a great variety of machines and mechanical tools.

These essential differences, says Mr. Matthews, are reflected in the structure and procedures of the negotiating and conciliation machinery of the two industries. The building industry is based on local and regional machinery subject to the right to carry any case to the appropriate committee of the National Council should that be necessary. All the unions concerned have representatives on the National Joint Council for the Building Industry though naturally the craft unions predominate.

On the Civil Engineering Conciliation Board, on the other hand, the general workers unions have the majority representation and hold the key positions. The Board normally meets monthly and a special panel can be called together at any time at reasonably short notice. There are no local or regional committees, but a joint report on the circumstances or site conditions giving rise to a case can be obtained if necessary.

#### Views About Demarcation

There have been times, says Mr. Matthews, when the difference in procedure has been criticised by the craft unions, but he contends as mentioned earlier that experience has shown that the Civil Engineering Board, established over 40 years, operates with the flexibility necessary to deal with the circumstances of the civil engineering industry. Mr. Matthews also has strong views about demarcation. He says that the old definition whereby anything at or below ground level is civil engineering and all construction above the ground is building can have no validity today, even if it ever had, which is doubtful in the extreme.

One can hardly escape the conclusion that these two salvos from the labour unions means that the labourers are once again going to resist any take over bid by the craft unions.

### WANDSWORTH TO REVIEW FIXED PRICE TENDERING

The General Purposes Committee of Wandsworth B.C. have recommended that the Council's decision of 1957 relating to fixed-price tendering be varied temporarily to permit tenders to be obtained both on a fixed price and a price fluctuation basis, for building work which it is estimated can reasonably be completed in a period of not more than one year.

The advantages of the adoption of either form of tender will be assessed in connection with the wage increases which will operate in the building industry from October, and the shorter working week. It is proposed to review the position in six months' time.

### LECA AGGREGATE PRICE DOWN

Leca (Great Britain), Ltd., Buckhurst Hill, Essex, have announced a reduction in the basic ex works price of all grades of Leca aggregate of 4s. per cu. yd. This follows greater efficiency of production at their Ongar Works, where auxiliary equipment has been installed.

(Concluded from previous page)

of which is equipped with two washing machines, a spin dryer and three drying cabinets. A warden is in charge of these arrangements which also include drying areas on the roofs of the 13-storey blocks.

In each 13-storey block the flats are reached by two lifts, stopping at alternate floors and capable of carrying eight persons each. There are also staircases with a special decorative finish resistant to pencil and chalk marks.

Particular attention has been paid to the appearance of the entrance halls which have terrazzo flooring and have decorative polished wood panelling.

In order to reduce the overall area of each flat, bathrooms with w.c. and wash-basin, have been positioned in the centre of the building and mechanical ventilation provided for these by electric extractor fans. Other features include pivot windows refuse disposal chutes and electric incinerators on each floor. A central radio and television aerial system has been employed with outlet points in each living room.

#### Construction

Although the Council, which owns more than a third of the homes in Crayford, has built about 33 per cent. of them by direct labour, it was decided for this multi-storey

scheme it would be preferable to call in outside assistance from a contractor.

George Wimpey and Co., Ltd., were approached and evolved the present scheme on Mr. Anderson's instructions, their tender being accepted in June, 1960. Much of the scheme is now complete—the three-storey flats are occupied, the first multi-storey block is to be occupied in October, and it is anticipated the entire project will be finished by April, 1962.

An extensive site investigation was carried out by the Wimpey Central Laboratory in view of the swallow holes known to exist in the chalk in the Crayford area. Some of these swallow holes were found at the site and as a result 669 bored piles, 19in. in diameter, were driven for the foundations to between 25ft. and 45ft. Designed to carry 50 tons each, a loading test to 100 tons proved satisfactory.

The low height blocks have been poured in load-bearing No-fines concrete using the Company's normal large shuttering enabling two floors to be poured at a time. The only modification was that for the shop fronts, where a large opening is necessary, reinforced columns and a beam at first-floor level have been incorporated. For the reinforced concrete 13-storey blocks, No-fines frame and panel method of construction was used.

All the structural members are of in-situ

concrete with the exception of the beams between kitchen and bathroom which are of precast concrete, and projecting reinforcements from these beams are cast into the in-situ floor slabs to form a complete homogeneous structure. The stairs are also factory-made and the precast concrete half flight is bedded into seatings provided in the in-situ landings.

#### Plant and Materials

Among the plant and equipment used in completing the work were one 33RB crane used on the three-storey block, and two Jules Weitz tower cranes. One of these was on rails so as to pour two of the 13-storey blocks, and one of the four-storey blocks without the need to dismantle.

There were also on site two 12S mixers, one 7S and four 3.5S. Of the two cement silos one was of 20 tons capacity and the other was 30 tons. There were also four Moonraker Mark 3 static hoists, and one Ant Queen mobile hoist.

Materials included 3,600 cu. yd. of No-fines concrete, 10,000 cu. yd. of dense concrete, 19,900 sq. yd. of 2½in. and 4in. breeze blocks, and 670,000 bricks. There were 250 tons of steel reinforcing rods, 126 tons of steel mesh reinforcement, 520 precast concrete beams and 84 precast concrete half flights of stairs used in the multi-storey blocks.



## LEAK DETECTION BY MAGNETISED "FERRET" DEVICE

### Experiments by Water Research Association

**A** MEANS of locating leaks in mains quickly and accurately is urgently needed by the water engineer, since loss of water by leakage from water distribution systems in the British Isles is estimated to be at least 10 per cent. of the volume actually delivered to the consumer.

It is with this object in view that a series of experiments is being followed by the Water Research Association involving a magnetised plunger or "ferret," used for cleaning pipes, together with transistorised equipment for locating the plunger in the pipe.

Ferrets, which carry brushes or scrapers for cleaning the pipe, are driven by the pressure of water. They are not commonly used in the industry because if they should stop in the pipe it might be an expensive matter to find and recover them. However,

the new apparatus should enable them to be used with greater confidence.

The device attached to the ferret is a simple magnetic source whose field is detected by a search coil in the apparatus carried by the operator. The output of the search coil is amplified and presented to the operator as an audible note, whose volume depends on the distance between the ferret and the detector. Transistors are used in the magnetic source and the detector.

The perfection of this ferret-detecting device is a preliminary to the development of an instrument carrier which will pass along inside the pipelines and transmit readings to an observer. Measurements of pressure taken in this way, for instance, would enable the position of leaks to be determined with great accuracy.

The medium used for communicating between the ferret and the detector is of

interest. The screening effect of metallic pipes to electro-magnetic or electro-static fields makes it difficult to transmit a signal of sufficient intensity by those methods, but other methods are incapable of being modulated to provide a telemetering signal or suffer some other disadvantage. A steady magnetic source within the pipe radiates so weakly in comparison with the earth's magnetic field that it is expensive and difficult to detect.

A magnetic field modulated at very low frequency, however, produces no higher level of radiation but it is easily distinguishable from the earth's magnetic field and other interference, and this system is therefore being used.

#### Testing Plastic Pipe

These experiments are part of a programme being carried out by the Physics Division of the Water Research Association. The Association which, under the directorship of Dr. R. G. Allen, recently moved into new laboratories at Medmenham, Bucks., has now set up five research divisions, Physics, Chemistry, Hydrology, Plant Process and Biology.

Another series of experiments being carried out by the Physics Division concerns the impact testing of plastic pipes.

Work has already been done which enables decisions to be made on the dimensions of pipe to be installed for specific pipe pressures. The equipment being used assesses the resistance of plastic pipe to damage in transit and installation and enables changes in strengths of newly produced pipe to be assessed. The results of this work will contribute to the determination of a suitable impact test requirement in the new British Standard.

#### MANCHESTER BUILDING

*To the Editor of "The Contract Journal,"*  
Sir,—We have noted with great interest your reference—*The Contract Journal*, September 21—to the new Co-operative Insurance Society office block in Miller Street, Manchester. However, we must point out an error in the context relating to the cladding.

In actual fact the cladding used throughout is porcelain enamelled steel in the form of a composite panel, manufactured in its entirety by this company. The "Escol" panel comprises 16G porcelain enamelled steel facing enclosing Asbestolux bonded inside, loose infill of fibreglass and backing of Eternit wallboard.

The area of panelling being supplied by us is approximately 50,000 sq. ft. and as such represents the largest single installation of cladding in porcelain enamelled steel in this country.

Yours, etc.,

R. ARCHER,

Manager, Architectural  
Department.

Stewart and Gray, Ltd.,  
London, S.W.17.

## LENGTH OF BUILDING APPRENTICESHIP N.F.B.T.E. Consider Working Party Report

**F**OR some time many have held the view that the period of apprenticeship for the building crafts is longer than it need be in these days", stated Mr. Frank Russon, national president, at the half-yearly general meeting of the North-Western Federation of Building Trades Employers, held in Leyland last week.

"The subject has been engaging the attention of the N.F.B.T.E.," he said, "and earlier this year it set up a Working Party, under the independent chairmanship of Sir Graham Savage, to consider the length of apprenticeship in the industry, with particular reference to those who have followed the existing arrangements for full-time education—including vocational training—up to the age of 16.

"At present the time spent by an apprentice at a craft is accepted as proof of his competence in that craft, so that the craftsman's standard rate is payable to any apprentice who completes his apprentice-

ship period (normally five years) and is aged 20 or 21.

"This inevitably means that no account is taken of differences of ability. The Working Party has therefore considered whether, in determining the degree of competence marking the transition from apprentice to craftsman, the time has not come when some weight should be given to success in existing craft examinations.

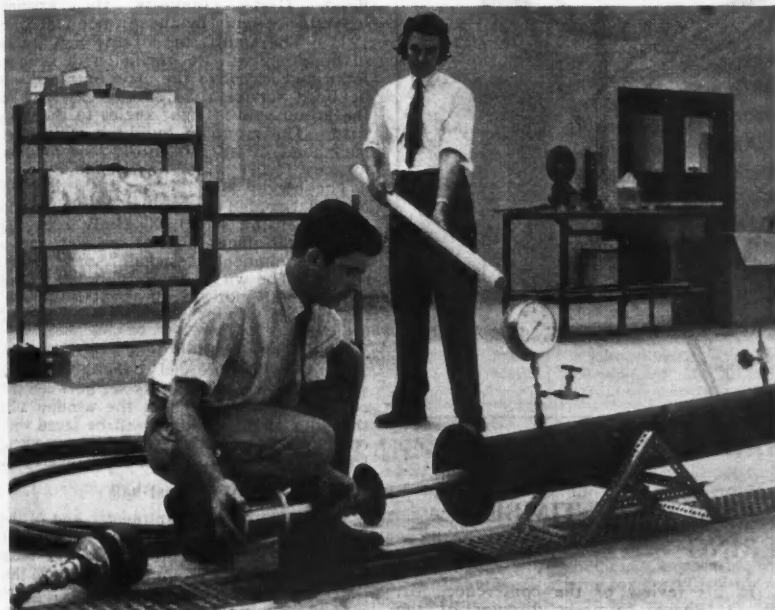
"The Working Party's report, which contains a number of recommendations, will come before the Council of the Federation for discussion on September 27. I would like to assure you that all the views expressed by Regional Federations' representatives in the discussion at the Council meeting will be taken fully into account in determining our ultimate policy. We shall then, of course, have to have some full and frank discussion on the subject with the representatives of the building unions, who are naturally vitally concerned in this matter, and without whose co-operation no real progress can be made."

## Obituary

It is with regret that *The Contract Journal* records the death of the following:

Mr. Arthur Walburgh Ward, M.I.C.E., M.I.Mun.E., aged 84, former borough surveyor of Shrewsbury.

Sir Ellis Hunter, C.B.E., chairman of Dorman Long and Co., Ltd., since 1948. He was 69. His first contact with the iron and steel industry was during the 1914-18 war when he was employed as an accountant at the Ministry of Munitions. In 1922 he became a local partner in W. B. Peat and Co., and with the formation of Peat, Marwick and Mitchell, he became a general partner in 1928. He joined Dorman Long in 1938, when he was appointed deputy chairman and in the following year managing director. In 1945 he was elected first chairman of the British Steel Producers' Conference and appointed president of the British Iron and Steel Federation, retaining the office until 1953. He was knighted in 1948.



Prototype "Ferret" and detector apparatus

## PRESTON-LANCASTER MOTORWAY

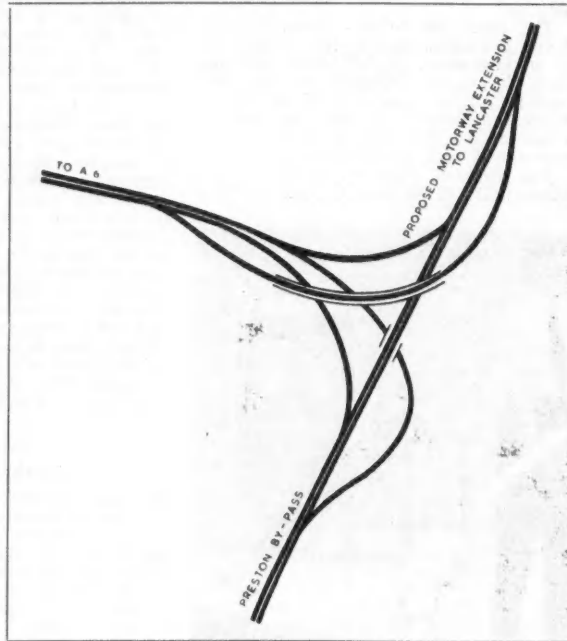
### Junction Re-designed to Speed Traffic

**M**R. ERNEST MARPLES, Minister of Transport, has published revised proposals for a new type of motorway junction to be constructed in Lancashire. This is the junction which will be required at Broughton, near Preston, when the proposed 13-mile length of motorway between Preston and Lancaster is built; at this point, the new motorway will link with the northern end of the existing Preston By-pass, and there will also be a connection with the A.6 (Preston-Carlisle) trunk route.

The layout originally proposed for this junction, included in a scheme made last year under the Highways Act, 1959, was of the "trumpet" or "half clover leaf" type. The comparatively sharp curves of such a design would have required traffic to come down to a very slow speed in order to negotiate them safely. As a result, however, of further experience in the use of motorway junctions in this country and abroad and of fresh estimates of the likely volume of traffic, the design has been revised to provide much easier curves, which will permit free flow of traffic at speeds up to 50 m.p.h.

The junction will have four bridges to take the various slip roads over or under the motorway. Because of the nature of the ground, three of the bridges will be combined to form a continuous short length of viaduct.

Broughton junction, which is expected to be the first of its type to be constructed in this country, has been designed for the Ministry of Transport by the agent authority, Lancashire County Council (county surveyor and bridgmaster, Mr. James Drake, B.Sc., M.I.C.E., M.I.Mun.E.).



Broughton Junction revised proposals

## INTERNATIONAL CONFERENCE ON TIMBER ENGINEERING

**T**HE delegates to the first Timber Engineering Conference held in Southampton last week, spent two days discussing a total of sixteen Papers grouped under five main headings.

The first session during which four Papers were presented was on joints. As one contributor pointed out, in these simplest terms, the timber engineers job is to put pieces of wood together. Or as another speaker put it, "we are all carpenters."

Four Papers relating to timber shell construction, a form which is developing rapidly in this country over the last four years, were discussed in the next session. This was followed by three Papers which described some particular forms of timber construction and their use in various buildings which had been designed by the authors.

Three Papers then discussed some tests on different forms of timber construction, and the reason why certain timber structures studied by the author, had failed in service. Finally, two Papers were presented on the economics on different timber structural forms for different spans, and on the possibility of using electronic computers to determine the most economic form of timber structure for given design requirements.

These Papers from 10 different countries emphasised the international nature of the conference; they were the result of timber engineering research.

In his review of the conference, Mr. P. O. Reece, formerly director of the Timber Development Association, and now on the board of Pheonix Timber Co., Ltd., said that the very fact that the conference had taken place proved timber's renaissance as a structural material. He asked why it had been thought necessary to bring this renaissance about, what had been the purpose of all the research and development which had re-established timber in engineering, when other materials had managed fairly well without much help from timber for a number of years.

His answer was that the increased use of timber in building was justified by the saving of building time, and because this was one way to shorten time which it took for people to get into new buildings and start using them. All this meant that money was being saved and the nations resources were being better used.

He referred to the paradox of timber—that it was man's oldest material and at the same time, timber as it was used today, was almost entirely the product of research and development which had taken place within this century, most of it within the last 25 years.

When Mr. Reece called for much more prefabrication of timber components and timber structures, he echoed many of the speakers during the conference. Similarly, when he made a plea for international co-operation of the drawing up of building codes,

## £14M. RAILWAY LABORATORIES CONTRACT

**T**HE British Transport Commission have placed a contract with William Moss and Sons, Ltd., Loughborough, for the construction of the buildings for British Railways' new £14m. engineering laboratories and Research Department Headquarters in London Road, Derby. Work is about to begin and will take about two years to complete.

The project is part of a comprehensive scheme to reorganise and expand the railways research department which began with the completion last year of new chemical laboratories at Muswell Hill, London. Under the scheme the engineering, vehicle and track-testing, metallurgy, and physics divisions will be combined and housed in the new buildings at Derby, which will also become the headquarters of British Railways' Director of Research, whose present office is in London.

The new group of buildings has been designed by the Commission's Architect, F. F. C. Curtis, Dr.Eng., A.R.I.B.A.

### The Site

The site is on the north side of London Road, Derby, opposite the existing laboratories built by the former L.M.S. in 1931. The south side of the new group of buildings will lie parallel with London Road and access to the main entrance will be by a service road at the east end of the group, laid at right angles to the main road. The group of buildings will be set back some distance from the road to allow for any future widening scheme.

The biggest building in the group will be a flat-roofed five-storey administration block housing scientists' study rooms, a library and offices, and, at the west end, a large equipment test-hall some 200ft. square. The whole group of buildings will have a total floor area of about 100,000 sq. ft. and will occupy some 85,000 sq. ft. of ground.

The administration block will be constructed of reinforced concrete framing with window glazing units set between the concrete frames. Beneath the window sills the sides of the building will be faced with opaque white vitreous panels. The concrete frames will be faced with black aggregate.

### Main Test-hall

The main test-hall at the far end of the site, which will be about 40ft. in height at the eaves, will have blue-grey brick walls up to 19ft. above ground level. Above this the rest of the building, including the flat roof with seven projecting north lights, will be a steel-framed structure clad completely in glass to give the maximum natural lighting.

The entrance to the group of buildings will be protected by a concrete awning set in the centre of the front of the administration block. Opposite the entrance will be a surfaced car park. At the rear of this block there will be a paved and landscaped quadrangle enclosed on the other three sides by single-storey laboratories of the same construction with similar black and white facings. The laboratory wings to the left and right of the quadrangle will extend forward alongside the ends of the administration block so that the five-storey building lies between the ends of the wings.

### Flexibility

Within the laboratory sections there will be mullions at 6ft. intervals, an arrangement which will give a high degree of flexibility as the sizes of the various laboratories will be variable by multiples of this spacing. The main services—electricity, gas, water and heating—will be conducted in "walk-through" ducts beneath the laboratories to give service engineers easy access when changes in the supply are needed.

This section will contain a wide variety of laboratories equipped for studies of physics, heat, acoustics, light, metallurgy, and metallography.



## £550,000 LONGBRIDGE CAR PARK IN OPERATION SHORTLY

### Two Spiral Operation System

THE nine-storey car park to house 3,300 cars at the Austin Motor Co.'s Longbridge Works has now been completed and will be in operation shortly.

Costing £550,000 the structure was designed by Harry Weedon and Partners, architects to the British Motor Corporation, and was built by Robert M. Douglas (Contractors), Ltd., using the Lift Slab method of construction. The building is 384ft. long by 204ft. wide, columns and floor slabs being of reinforced concrete construction. A description of the car park and its construction was given in *The Contract Journal* of May 11, 1961.

Operation of the park is on the ramped floor principle and it is thought to be the largest of its type in the world.

#### Movement Control

Due to the ramped floors the building can be operated on a two-spiral system. One spiral will be used exclusively for the incoming Up traffic and the other for the outgoing Down traffic thus giving a safe one-way traffic system. The "spirals" being joined together in the middle of the building enables vehicles to change from the up to the down spiral at any of the nine floor levels.

Each of these floors is divided into four bays, two on the up spiral and two on the down spiral. At the beginning of the In spiral two bays will be used for marshalling vehicles as they arrive from the car assembly building; at the end of the Out spiral a similar two bays will be used for final checking of vehicles before delivery.

So that a check can be kept on the movement of vehicles, movable barriers will be placed between the marshalling bays and the parking bays on the In spiral, and similarly between the parking bays

and the checking bays on the Out spiral.

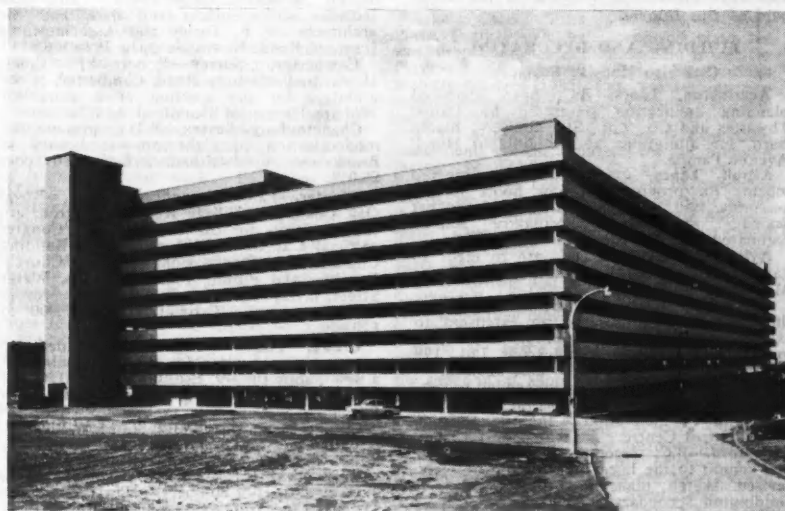
Before passing the In barrier a vehicle location card and a plastic vehicle counter will be handed out from the checking office to each vehicle. This vehicle counter, which will be displayed in a prominent position on the vehicle at all times while in the building, indicates the floor and bay in which the vehicle should be parked, and at the same time gives directions as to which of the two gangways in each bay should be used when parking.

Each of these bays is divided into individual vehicle parking lots; and the driver,

following the instructions given on the vehicle counter, will park his vehicle in the first available parking lot on the allocated floor and bay. The exact position of this vehicle will be noted on the vehicle location card which will then be returned to the checking office until again required. There will be, therefore, in the checking office an up-to-date, though changing, record of the position of every vehicle in the building.

In addition to this, as there will be an equal number of vehicle counters and vehicle parking lots, the number of vacant spaces will be readily seen from the number of vehicle counters remaining in the checking office for issue.

To reduce the amount of walking personnel will have to do in the building, which has a total floor area of approximately 17 acres, lifts are provided at the four corners of the building, next to the stairways.



Exterior view of the car park

## £250,000 EXTENSIONS PLANNED AT STANLEY WORKS

A DEVELOPMENT plan for their Sheffield factory, estimated to cost £250,000, has been announced by Stanley Works (G.B.), Ltd.

The major part of the plan is for the erection of a 33,000 sq. ft. administrative

block on a site adjoining the factory and, in addition, a new floor is to be added to one wing of the factory.

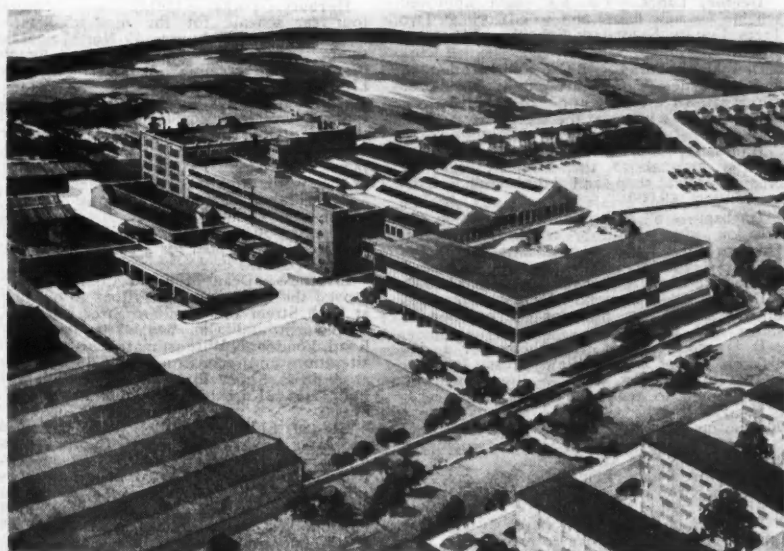
The new buildings have been designed to blend with Sheffield Corporation's big development scheme for the Woodside area of the city. The tone of the new administra-

tive building, which will be fronted with decorative glass panels, marries with the modern blocks of flats now being built on the other side of the valley. Ornamental gardens flanking the Stanley building will merge into the green belt planned by the Corporation to divide the industrial and residential zones of the area.

The company's architect, Mr. Colin Hadfield, has designed the new buildings. Work on the administration block is expected to begin towards the end of the year and to be completed about the end of 1962. It will occupy the site of the present works canteen. This will be demolished and the canteen moved to a more convenient position in the factory.

### NEW ZEALAND BUILDING FIGURES

The number of houses and flats built in New Zealand last year reached the record number of 23,500, an increase of 1,900 on the previous year. The total value of building permits was also a record at nearly £135m., an increase of £20m.



An artist's impression of the factory when the new development is completed. The "L"-shaped block is seen in the middle distance

● Work is to start soon on a £350,000 Arthritic Centre—for details turn to page 1583. Men and Movements appears on page 1584, followed by Progress of the Motorways (p.1585), Talking of Safety, by "Dragee" (p.1586), British Pavilion at International Trade Fair, Peru (p.1587) and For the Diary (p.1588). The Rapier Walking Dragline with 40 cu. yd. Bucket is described in Trade and Company News commencing on page 1589.



# Current Constructional Activities

## PROJECTS • CONTRACTS • AWARDS

**THIS** editorial feature provides readers with a comprehensive news service covering forthcoming private and public construction work. Commencing on this page information is given concerning future projects followed by details of tenders being invited. In the third section will be found news of tenders recommended for acceptance, tenders accepted and contracts awarded. Attention is also drawn to the advertisements covering contracts and appointments appearing in the front part of the *Journal*.

### BUILDING AND DECORATING

(See also Housing Schemes)

**Accrington, Lancs.**—B.C. have approved planning application submitted by Daniel Thwaites and Co., Ltd., Star Brewery, Blackburn, for alterations at the Adelphi Hotel, Avenue Parade.

**Aspull, Lancs.**—Co. E.C. have approved scheme for provision of new floors in the assembly hall and gymnasium and further drainage at County Secondary School. Estimated cost £3,800.

**Aylesbury, Bucks.**—R.D.C. are to erect 10 garages on a site in Eskdale Road, Stoke Mandeville.

**Ayr.**—Dean of Guild Court have approved the erection of a store as an extension to existing works at Newton-on-Ayr Esplanade, for Scottish Agricultural Industries, Ltd., 199 High Street, Ayr. Estimated cost £25,000.

**Barnsley, Yorks.**—B.C. recommended to submit to Home Office for approval and invite tenders for the adaptation of the Civil Defence Area Control Centre. Estimated cost £5,450.

**Bedford.**—B.C. recommended to approve and submit to the Local Education Authority, revised sketch plans for the erection of Goldington Secondary School.

**Bedford.**—Home Office have approved sketch plans for the erection of divisional police headquarters, for the Standing Joint Committee. Estimated cost £226,000.

**Blackburn, Lancs.**—B.C. recommended to approve scheme for the construction of a coach station and car park between Penny Street, Syke Street and Salford.

**Blackpool, Lancs.**—Pontin's Ltd., City Gate House, London, E.C.2, are to demolish more than 600 chalets at Squires Gate Holiday Camp to make way for the complete modernisation of the camp. Plans are being prepared for submission to local authority for approval.

**Boldon, Dur.**—U.D.C. have approved plans by the County Architect, for proposed additions to Cleadon County School.

**Bolton, Lancs.**—B.C. have approved planning application submitted by Magee Marshall and Co., Ltd., Crown Brewery, Bolton, for alterations to the Queen Elizabeth Hotel, Fletcher Street.

**Bootle, Lancs.**—B.C. have approved further plans for the reconstruction of the Town Hall to include the enlargement of the council chamber.

**Bridport, Dorset.**—B.C. recommended to approve amended scheme and invite tenders for the alteration of the depot destructor yard at South Street; approve layout plans in principle and invite tenders for the construction of an additional toilet block at Camp Field.

**Bristol.**—Kenneth Wakeford, Jerram and Harris, 3 Upper Berkeley Place, Bristol, 8, are the architects for the erection of a ballroom adjoining the Odeon cinema, Broadmead, for The Rank Organisation.

Messrs. Gledes, 2 Park Street, Bristol, 1, have been appointed as quantity surveyors for the erection of a factory at Waterloo Street, Old Market, for A. T. Poeton and Son, Ltd. Raymond Moxley, Chesterfield Chambers, Westbourne Place, Clifton, Bristol, 8, is the architect for the scheme.

City Council recommended to approve an improvement scheme for Jacob's Wells Baths. Estimated cost £85,000.

**Brownhills, Staffs.**—U.D.C. have approved subject to conditions, an application by Brownhills Sheet Metal Co. Ltd., Camden Works, Walsall Wood, for permission to erect a factory at Coppice Road, Walsall Wood.

**Bury St. Edmunds, Suffolk.**—East Anglian Regional Hospital Board recommended to approve the preparation of working drawings and bills of quantities for an extension to the maternity department at West Suffolk General Hospital and geriatric and chronic sick unit at St. Mary's Hospital, Mitchell, Weston and Clayton Smith, 38 Churchgate Street, are the architects and J. Stinton Jones and Partners, 21 Gloucester Place, London, W.1, consulting engineers for the schemes.

**Castle Ward, Northumb.**—Detailed plans have been approved for a development scheme at Ponteland, for Greensitt Brothers, 18 Nixon Street, Newcastle upon Tyne. The plan includes shops, offices and flats, and the architects are R. Turley and Associates, 46 Jesmond Road, Newcastle upon Tyne.

**Camberley, Surrey.**—Robert J. Coles, Howards, Portesbury Road, Camberley, is the architect for the erection of a store for William Harvey of Guildford, Ltd.

**Chancetonbury, Sussex.**—R.D.C. propose the modernisation of eight pre-war houses at Brookview, Coldwaltham. Estimated cost £5,032.

**Chester.**—Paterson and Macauley, Royal Oak Chambers, Village Road, Bebington, are the architects for the erection of a Congregational Church at Blaen, for The Building Committee of Blaen Congregational Church. Dansken and Purdie, India Buildings, Water Street, Liverpool, 2, are the quantity surveyors for the scheme. Estimated cost £7,000 to £10,000.

**Crewe, Ches.**—B.C. recommended to approve revised plans for the construction of a new public library. Estimated cost £120,000; proceed with the reinstatement of the Corn Exchange.

**Crook, Dur.**—G. Smith, Low Willington, is to convert the Empire Cinema, Willington, into a garage, showroom and flat.

**Darlington, Dur.**—John T. Bell and Sons, Market Street Chambers, Newcastle upon Tyne are to erect six shops and two flats at Edgemoor Road.

**Darlington, Dur.**—Outline plans have been approved for the erection of a shopping block at Northgate, for Ravenscroft Properties, Ltd. The architects are Fewster and Partners, 22 Conduit Street, London, W.1. Chippindale and Edmondson, 37a Tubwell Row, Darlington, are the architects for a coffee bar at Skinnergate.

**Darwen, Lancs.**—B.C. to sell land in Turncroft Lane to the Lancashire C.C. as a site for a new St. John's C. of E. School.

B.C. to consider sketch plans for reorganisation of Darwen's markets, including new building to accommodate the inside market above the outdoor one. Estimated cost £52,400.

**Denton, Lancs.**—Co. E.C. have approved scheme for new floors and woodwork at Two Trees County Secondary School. Estimated cost £3,000.

**Dewsbury, Yorks.**—B.C. recommended to approve schemes for the redevelopment of the Westown area; erection of a sub-station and caretaker's house at the secondary modern school.

**Doncaster, Yorks.**—B.C. planning permission granted to the Y.M.C.A. for the erection of a shop and boys' club. Estimated cost £9,000.

**Durham.**—Co. E.C. is recommending the erection of a building at Aykley Heads, Durham City, to house the museum of the Durham Light Infantry which is being placed in the care of the C.C. Estimated cost £35,000.

**Durham.**—Hammond United Breweries Ltd., Bradford, are planning the erection of shops and flats.

It is expected that the scheme for a dry cleaning depot at Neville's Cross, for Co-operative Laundries, Ltd., Wallsend, will be ready to go to tender within a few weeks. Plans are by the C.W.S. Architects' Dept., 90 Westmorland Road, Newcastle upon Tyne.

C.C. to build two additional classrooms at Houghton-le-Spring County School.

**Easington, Dur.**—Plans have been prepared for the erection of a new depot for the R.D.C. Estimated cost £25,000.

The Durham Coal Board (Area 2), Old Eye Infirmary, Sunderland, are to erect a fire and rescue station at Murton Colliery.

**East Suffolk.**—County Architect to prepare preliminary plans for an ambulance station at Saxmundham.

**Eston, Yorks.**—U.D.C. proposes public conveniences at Normanby Road.

**Featherstone, Yorks.**—U.D.C. have received Ministry approval for proposed sports pavilion to be built in Furston Park. Estimated cost £6,000.

**Flixton, Lancs.**—Co. E.C. have approved scheme for new gymnasium floor and joists, etc., at Wellacre County Secondary School. Estimated cost £2,600.

**Fulbourn, Cambs.**—East Anglian Regional Hospital Board have appointed Lewis and Marshall, 62 Sidney Street, Cambridge, as quantity surveyors, for the erection of a sports pavilion at Fulbourn Hospital.

**Gateshead, Dur.**—Contracts are still undecided for the erection of a supermarket at Durham Road, Low Fell, for Laws Stores, Ltd. The architects are Mauchlen and Weightman, 12 Saville Row, Newcastle upon Tyne.

**Glasgow.**—Covell and Matthews, 34 Sackville Street, London, W.1, are the architects for a six-storey block of shops and offices on the site of the Empire Theatre for Moss Empires, Ltd., Cranbourn Mansions, London, W.C.2. Estimated cost over £500,000.

**Grangemouth, Stirlings.**—Dean of Guild Court have approved the following: Erection of a fibreglass and plastic products factory for B.C., estimated cost £21,500; erection of a liquid petroleum gas filling station and repair station at Airfield industrial estate for Calor Gas (Distributing) Co., Ltd., 178 Great Portland Street, London, W.1, £25,000.

**Great Yarmouth, Norfolk.**—B.C. recommended to approve in principle, plan for the development of Gorleston sea front.

**Guildford, Surrey.**—B.C. have prepared plans for the provision of an indoor bowling rink at Burchatts Farm, Stoke Park. Estimated cost £2,000.

**Hartlepool, Dur.**—A development company is planning the erection of shops and flats at Northgate and discussions are taking place with the Town Council. Three alternative schemes are to be considered by the Council for a proposed bus station.

**Hartlepool, Dur.**—Matkin and Hawkins, Barclays Bank Chambers, Fawcett Street, Sunderland, are the architects for a factory of 20,000 sq. ft. on the Hartlepool trading estate for Ambrose Shardlaw and Co., Sheffield.

**Hastings, Sussex.**—B.C. recommended to approve, subject to conditions, plans submitted by Hammond Bros., Upper South Road, St. Leonards-on-Sea, for the erection of a factory at Windmill Avenue, for R. A. Mendenhall.

**Hinckley, Leics.**—U.D.C. to submit to the Royal Fine Arts Commission for approval, revised plans for new council offices and include the project in the 1962-63-64 programmes. Estimated cost £208,024.

**Horbury, Yorks.**—U.D.C. have approved four-year scheme for the modernisation of bathrooms in 127 houses at Northfield Lane estate. Tenders are to be invited for the first year's programme. Total estimated cost £10,160.

**Horsham, Sussex.**—The Parochial Church Council have received planning permission for the erection of the Church of St. John with hall and car park, etc., at Broadbridge Heath. James E. Ralph, 1 Gower Street, London, W.C.1, is the architect for the scheme.

**Hunstanton, Norfolk.**—U.D.C. recommended to instruct Graham Beakley and Associates, architects, 50 King Street, King's Lynn, to prepare a sketch plan for a cafeteria at Minna Lodge Garden.

**Inverness.**—Dean of Guild Court have approved the following: Alterations to buildings at High Street and Lombard Street for F. W. Woolworth and Co., Ltd., 242 Marylebone Road, London, N.W.1, estimated cost £135,000; alterations and reconstruction of filling station at Ardross Street for National Benzole Co., Ltd., 195 Knightsbridge, London, S.W.7, £9,000.

**Isle of Ely.**—Highways Committee have approved scheme for reorganisation of the divisional depot at Cambridge Road, Ely. Estimated cost £1,000.

**Islington.**—B.C. recommended to appoint Basil E. Brencley, 14 Connaught Street, London, W.2, as consultant architect for the repair and improvement of 26 St. Peters Street and 40 Ashbrook Road.

**Kirkby, Lancs.**—Co. E.C. have approved repairs at the Brookfield Comprehensive School. Estimated cost £2,900.

**Leicester.**—Health Committee to purchase land in Aylestone Road for the erection of an adult training centre and sheltered workshops. Estimated cost £125,000.

**Liverpool.**—University of Liverpool plan to build a modern commercial centre in the middle of the university precinct as part of their redevelopment plan. It will cater for students, and amenities will include bookshops, a bank, restaurant and public-house. Estimated cost £100,000.

**Llanelli, Carmarthen.**—B.C. propose the erection of a new slaughterhouse. Outline plans are to be submitted to Ministry for approval in the near future.

**Lluchwr, Glamorgan.**—U.D.C. to submit to Ministry proposal for the erection of a swimming pool in the area. Estimated cost £20,000.

**Longbenton, Northumbria.**—It is expected that tenders will be invited shortly for the erection of a youth centre on the Longbenton housing estate. The architects are Wilson and Wilson, 23 Leazes Park Road, Newcastle upon Tyne. Estimated cost £21,000.

**Middlesbrough, Yorks.**—Outline approval has been given for proposed alterations and additions to shopping premises at Linthorpe Road, for Middlesbrough Co-operative Society, Ltd. The architects are the C.W.S. Architects' Department, 90 Westmorland Road, Newcastle upon Tyne. Detailed plans are to be prepared.

**Middlesbrough, Yorks.**—B.C. recommended to approve plans for the extension to temporary classroom hut at Whitney Banks Junior School.

B.C. recommended to approve outline plans for the erection of offices and/or machine shops on land at East and Gray Streets and Lower Feversham Street, for Head Wrightson and Co., Ltd., Teesdale Ironworks, Thornaby, Stockton-on-Tees, Dur.

**Middlesbrough, Yorks.**—Plans are being prepared by Crawford and Spencer, 91 Borough Road, for extending clothing factory in Windermere Road, for Sachs and Co. Plans are being prepared by Kitchen and Co., 21 Albert Road, for the erection of a large warehouse at South Bank Road, for the Tees-Side Warehousing Co., Ltd. Stirr Brothers, Whessoe Road, Darlington, are to erect a fish depot on the Lloyd Street light industrial area. Kitching and Co., have prepared plans for additions to the residential Linthorpe Hotel, The Crescent, for S. Smith Old Brewery (Tadcaster), Ltd. Bulk flour storage silos are to be built in Tennyson Street for J. Forbes, Ltd., Linthorpe Road. The architects are Newark and Blackbell, 58 John Street, Sunderland.

A public enquiry has been held into a plan by Ceres Investments, Ltd., London, to erect shops and flats on the site of the Regent Cinema, Parliament Road. More than 50 shopkeepers are opposing the scheme. The architects are S. John Hill and Partners, 2 Whitfield Street, Gloucester.

**Midlothian.**—C.C. propose to erect 17 new factories at Loanhead, ranging in size from 3,000 to 5,000 sq. ft.

**Midlothian.**—Scottish Home Department have approved Livingston as the site for Scotland's fourth new town which is estimated to cost £40m. over the next 20 years.

**Moray and Nairn.**—Works Committee have approved sketch plans for a proposed eventide home at Grantown-on-Spey, for C.C. Estimated cost £41,000.

**Newbiggin, Northumbria.**—U.D.C. have approved plans by the County Architect for the erection of a secondary school near Welfare Crescent.

**Newcastle upon Tyne.**—City Council recommended to apply for sanction to borrow £153,338 for the extension of Kenton Secondary School and £89,268 for the erection of a primary school at Cruddas Park in replacement of Westmorland Road Primary School.

**Newport, Mon.**—B.C. recommended to approve plans for the construction of a three-storey home at Hendre Farm Drive, Ringland estate. Estimated cost £105,603; reserve a site at St. Julian's estate for an old people's home; proceed with scheme for the adaptation of Emily Chambers, £3,520.

**Norham and Islashes, Northumbria.**—Relay Constructors, Ltd., West Monkseaton, Whitely Bay, have applied to R.D.C. for planning permission to erect a motel on the site of the condemned Old Colliery Row houses at Scremerston.

**North Riding.**—Thomas Mellor, Church Wood, Church Road, Lytham St. Annes, appointed architect, by the C.C., for the proposed Guisborough Primary School; C.C. is to obtain tenders for building branch library at Huntington and junior and infant school at Catterick Camp.

Gelder and Kitchen, 120 Alfred Gelder Street, Hull, have been appointed architects by the C.C. for the proposed Grangetown County Primary School.

**North Riding.**—Wakeham, Trower and Partners, St. Paul's House, St. Paul's Street, Leeds, have been appointed quantity surveyors by the C.C. for the proposed Dishforth and Sheriff Hutton Primary Schools.

E.C.'s 1962-63 building programme will include the erection of youth club annexes at the Eastfield, Scarborough; Nunthorpe and Thornaby Grange County Modern Schools. Fresh tenders are to be invited by the C.C. for alterations to Hawes Fire Station. Plans are also being considered for a new fire station at Leyburn.

**Norwich.**—Planning Committee have approved schemes for rebuilding premises at 62-70 St. Stephen Street for the Norwich Co-operative Society, Ltd. (Wearing and Hastings, architects, 5 Cathedral Street); replacing existing shops at 40-46 St. Stephen Street for Ceres Investments, Ltd., 19-21 Clarence Street, Gloucester.

**Nuneaton, War.**—B.C. recommended to include the provision of an abattoir in the capital works building programme for 1962/63.

**Oxford.**—Outline planning approval has been granted for the erection of a motel near the Northern By-pass, close to the Witney roundabout, for Watney-Lyon Motels, Ltd., 14 Fitzhardinge Street, London, W.1. Estimated cost £150,000.

**Peterborough.**—City Council recommended to approve scheme for the improvement of Church Street, Werrington. Estimated cost £46,000.

**Portsmouth.**—City Council have approved in principle, scheme for the provision of a wholesale fruit and vegetable market north of Charlotte Street including 18 warehouse units and high level car park. Estimated cost £282,000.

**Portsmouth.**—City Council recommended to appoint Clayton, Black and Petch, 25 Landport Terrace, Portsmouth, as architects, and W. Christopher and Son, Southsea, as quantity surveyors, for the erection of an office block on behalf of Portsmouth Aviation, Ltd.

**Rochester, Kent.**—The Governors of King's School have launched an appeal for £50,000 for the provision of a new assembly hall.

**Rotherham, Yorks.**—Sheffield Regional Hospital Board recommended to appoint Grimwade and Ainsley, Imperial Buildings, Rotherham, as quantity surveyors for the adaptation of blocks A and B for chronic sick patients at Wathwood I.D. Hospital.

**Royston, Herts.**—U.D.C. have no objection, subject to conditions, to C.C.'s proposal for use of land at Icknield Walk for a proposed primary school.

**St. Marylebone.**—Fitzroy Robinson and Partners, 3 Grays Inn Square, London, W.C.1, are the architects for the erection of new buildings at 17 Park Crescent, 77-83 Portland Place and 11-13 Park Crescent Mews West, for Great Portland Estates, Ltd. Burley, Lane and Partners, 66 Great Cumberland Place, London, W.1, are the quantity surveyors and Brian Colquhoun and Partners, 18 Upper Grosvenor Street, London, W.1, are the consulting engineers for the scheme. Estimated cost £300,000.

L.C.C. planning permission is being sought for the erection of offices, showrooms, workrooms and residential accommodation at 5 sites in Great Portland Street and the vicinity (Sir John Burnet, Tait and Partners, architects, 10 Bedford Square, London, W.C.1); shops, showrooms and flats at the corner of Portman Square and Baker Street (J. Stanley Beard, Bennett and Wilkins, architects, 101 Baker Street, London, W.1).

**St. Marylebone.**—Guntun and Guntun, architects, Empire House, St. Martins-le-Grand, E.C.1, are preparing plans for the erection of a wing at 141-145 Harley Street, and 27-29 Devonshire Mews, for the Trustees of the London Clinic, Ltd., The Clinic, 20 Devonshire Place, London, W.1.

**Salford, Lancs.**—B.C. recommended to incorporate the erection of civic hall in the plans for the new Salford Technical College, Leaf Square. Architects for the scheme are Halliday and Agate, 2 Fountain Street, Manchester, 3. Total estimated cost £1,250,000.

Royal Society for the Prevention of Cruelty to Animals, Grange House, Grange Avenue, Manchester, 19, propose the erection of a new clinic and centre at Hodge Lane, near Langworthy Road. Building is expected to commence this winter. Estimated cost £7,000.

**Sandown-Shanklin, I. of W.**—U.D.C. have deferred a proposal to build a boating pool on the site of the tennis courts on Shanklin Esplanade. Estimated cost £8,000.

**Scarborough, Yorks.**—B.C. recommended to approve scheme for improvements to the gentlemen's cloakroom facilities at the Spa ballroom. Estimated cost £3,415.

B.C. recommended to approve plans for the erection of homes for the aged at 57 North Leas Avenue, for Methodist Homes for the Aged, c/o Evan E. Morgan, Strayside House, Cavendish Avenue, Harrogate.

**Sheffield.**—Regional Hospital Board recommended to appoint I. Fletcher, North Church Street, Balwell, as quantity surveyor for development at Grenoside Hospital and for provision of an occupational therapy unit at Middlewood Hospital.

**Skelmersdale, Lancs.**—Co. E.C. have approved repairs to the gymnasium floor at County Secondary School. Estimated cost £3,800.

**Stepney.**—Town Planning approval has been received for the erection of new buildings at Davis's Feather Mills, Whitechapel High Street, for Central and District Properties, Ltd. Architects for the scheme are Lush and Lester, 121 Kingsway, London, W.C.2, quantity surveyors are Northcroft Neighbour and Nicholson, Victoria House, Southampton Row, London, W.C.1, and consulting engineers are Taylor, Whalley and Spyr, 24 Harley Street, London, W.1. Estimated cost £300,000.

**Stockton-on-Tees, Dur.**—Borough Architect has prepared a £19,000 scheme for a youth centre at Hardwick. The approval of the M.E. is being sought.

**Sunderland, Dur.**—B.C. propose improvements to cloakroom facilities at the Spa Ballroom. Estimated cost £3,415.

Baker, Clark, Scott, and Partner, York Place, Scarborough, have prepared plans for workshop additions at Beaconsfield Street for Plaxtons (Scarborough), Ltd.; Scarborough Holiday Chalets (1957), Ltd., are seeking permission to rebuild and redevelop their holiday camp at Scholes Park Road.

S. W. Milburn and Partners, 9 Esplanade, Sunderland, are the architects for the proposed factory of 115,000 sq. ft. at Pallion, for Perdio, Ltd., of London, makers of transistor radios, etc. The premises will be built under the authority of the Industrial Estates Management Corporation, Team Valley Trading Estate, Gateshead. Work will start early next year.

G. T. Brown and Son, 14 Grange Terrace, Stockton Road, Sunderland, are the architects for a five-storey office block at Thornhill Park, for the Durham Divisional Coal Board.

Plans are being prepared by C. Solomon, 30 St. Mary's Place, Newcastle upon Tyne, for the erection of shop premises on the Hylton Castle Estate, for Carricks Caterers, Ltd., Cowgate, Newcastle upon Tyne.

**Sunderland, Dur.**—Plans are being prepared for office block and other factory alterations at North Hylton Road for Ericsson Telephones, Ltd. The architects are Newark and Blackbell, 58 John Street, Sunderland.

Estates Management Corporation, Team Valley, Gateshead, are to build a factory for James A. Jobling and Co., Ltd., Wear Glassworks. A contract will be decided shortly. The architects are Matkin and Hawkins, Barclays Bank Chambers, Fawcett Street.

Ceres Investments, Ltd., are planning the erection of shops on the sites of a cinema and public houses at High Street West. The architects are S. John Hill and Partners, 2 Whitfield Street, Gloucester.

Plans are being considered for the erection of a four storey shopping block at Union Street for the Heron Group of Companies. The architects are Boyer and Partners, 88 Grays Inn Road, London, W.C.1.

G. T. Brown and Son, 14 Grange Terrace, Stockton Road, are preparing plans for an additional storey to premises at Westbourne Road for Frucose, Ltd. Steels Engineering Products, Ltd., are to extend their materials preparation shop at the Crown Works, Pallion.

**Swinton and Pendlebury, Lancs.**—B.C. recommended to prepare plans for the proposed public conveniences between town hall and post office at Chorley Road, Swinton.

**Thetford, Norfolk.**—Tenders are to be invited in mid-October for the erection of a chipboard factory and sawmill, for Novobord (U.K.), Ltd. H. G. Huckle and Partners, 30 Queen Anne Street, London, W.1, are the architects and E. C. Harris and Partners, Lynton House, 7-12 Tavistock Square, London, W.C.2, are the quantity surveyors for the scheme. Estimated cost £420,000.

**Tunbridge Wells, Kent.**—Co. E.C. have submitted to M.E. for approval, scheme for the erection of a primary school at Coneyburrow Wood, Sandhurst Road, during 1962-63.

**Uttoxeter, Staffs.**—U.D.C. to re-invite tenders for the construction of a swimming pool at the Oldfields Park site.

**Wakefield, Yorks.**—E.C. to submit to the M.E. plans for a new Standbridge Primary School at Kettlethorpe for approval and to purchase land in Belgravia Road for the proposed St. John's C. of E. Primary School.

**Walsall, Staffs.**—B.C. have approved, in principle, plans for the provision of additional accommodation at Elmsdale Hotel. H. E. Lavender, Son and Close, architects, 49 Bradford Street, Walsall.

**Wandsworth.**—Planning approval is being awaited for the erection of an office building with shops on the ground floor at 47-53 Wandsworth High Street, for T. Pike, 130



Mount Street, London, W.1. William Ryder, 21 Bruton Street, London, W.1, is the architect and L. R. Kinsler and Partners, 78 Mount Street, W.1, are the quantity surveyors for the scheme. Estimated cost £103,000.

**Washington, Dur.**—It has been confirmed that Tube Investments, Ltd., Birmingham, are to construct a factory on a 280 acres site in the Washington area. Preliminary work is expected to start early in 1962, and when in full operation, the new works will employ 3,000 men and women.

**West Bromwich, Staffs.**—Tender documents are being prepared for the erection of seven shops with showrooms and stores over at the Great Bridge Cinema site, for Baratham, Ltd. J. F. Phillips and Associates, 32 New Street, West Bromwich, are the architects, Harris, Rourke and Simpson, 191 Corporation Street, Birmingham, 4, are the quantity surveyors, and Eric Morton, Barclays Bank Chambers, 175 Hockley Hill, Birmingham 18, is the structural consultant for the scheme. Estimated cost £30,000.

**Worcester.**—City Council have approved revised plans for the provision of a shopping centre in the Lich Street area.

#### GAS AND WATER SUPPLY

**Armagh.**—Ministry have approved a water extension scheme at Verner's Bridge, Hunts Corner, Derrane area, for R.D.C. Estimated cost £13,300.

**Ellesmere, Salop.**—R.D.C. recommended to apply for sanction to borrow £12,950 for extensions to the Welshampton water supply scheme.

**Wigton, Cumb.**—Ministry have approved in principle R.D.C.'s scheme to provide a new water supply to Caldbeck and Hesket, Newmarket, villages and hill farms in the area and improve supplies to the Ireby district. Estimated cost £107,925.

#### HARBOURS, PIERS AND SEA DEFENCE WORKS

**Abergele, Denbighs.**—U.D.C. propose the construction of sea defence works at Kinnel Bay. Estimated cost £120,000.

#### HEATING AND VENTILATING

**Sunderland, Dur.**—Contracts will be let shortly by the E.C. for mechanical engineering services estimated to cost £90,000 at Technical College, South Johnson Street. Estimated cost £90,000.

#### HOUSING SCHEMES

**Amesbury, Wilts.**—R.D.C. propose the erection of 60 houses and 20 bungalows at Bulford.

**Bath, Som.**—City Council are to proceed with the Kingsmead redevelopment scheme, to include blocks of flats, government offices and telephone exchange; are to postpone the completion of the Twerton-Whiteway estate.

**Birkenhead, Ches.**—Ministry have approved B.C.'s scheme for the demolition of houses in Vittoria Street, St. Anne Street, Cathcart Street and Beckwith Street and redevelopment of sites for new housing.

**Bo'ness, West Lothian.**—Department of Health have approved plans for 22 houses at gap sites for B.C. Estimated cost £43,000.

**Bourne, Lincs.**—U.D.C. propose the provision of 32 units of accommodation during 1962.

**Bristol.**—Planning Committee have approved scheme submitted by Raymond Moxley, architect, Chesterfield Chambers, Westbourne Place, for 3 five-storey buildings comprising 72 flats at Ivor House, Durham Park.

**Burnham-on-Sea, Som.**—U.D.C. are to prepare revised plans for the erection of 72 maisonnettes, 30 three-bedroom flats and 15 one-bedroom flats with the appropriate number of garages, at Highbridge.

**Darlington, Dur.**—Housing Committee have approved revised layout plan for the Yarm Road site providing for 54 flats and 48 houses. Borough Architect authorised to obtain a price for erecting the houses from the Corporation's Works Department; to invite tenders for erection of eight dwellings on the Lingfield estate; approve a further layout plan for the erection of a block of flats in Coniscliffe Road.

**Dolgellau, Merioneths.**—U.D.C. have approved draft lay-out plans for the erection of 10 houses on the Penycaeu site.

**Elham, Kent.**—R.D.C. propose the erection of 32 old people's dwellings, comprising eight at Elham, eight at The Street, Hawkinge, eight at Lympne, six at Sellindge and two at Peene housing estate, Newington.

**Exmouth, Devon.**—U.D.C. have prepared, for submission to C.C. for approval, plans for the erection of warden's accommodation and other communal facilities for elderly people who will be housed at Nutbrook and Burnside estates, Withycombe.

**Finchley, Middx.**—Fitzpatrick and Nicholson Ltd., 455 Old Ford Road, London, E.3, propose the erection of an eleven-storey block of 88 flats with ground floor space for 88 cars on site of Woodside House at the junction of High Road and Totteridge Lane, Whetstone. Road and Totteridge Lane, Whetstone.

**Glasgow.**—Boswell, Mitchell and Johnston, 256 West George Street, Glasgow, C.2, are the architects for 585 houses at Pollokshaws redevelopment area. Estimated cost £1,489,000.

**Grangemouth, Stirlings.**—Dean of Guild Court have approved the following: Sixty houses in Oxbang Road, for B.C., estimated cost £100,000; 14 houses off Princes Street for James Miller and Partner, Ltd., 18 George Street, Edinburgh, 2, £35,000.

**Havant and Waterloo, Hants.**—U.D.C. have approved revised plans for 20 old people's flats at Barton Road, Havant.

**Holsworthy, Devon.**—R.D.C. are preparing plans for the erection of 22 old people's houses and 16 other houses.

**Hornsey, Middx.**—B.C. recommended to submit to Ministry scheme for the conversion of 6 Hatherley Gardens into 2 flats. Estimated cost £1,550.

B.C. recommended to submit to Ministry for inclusion in the 1962 programme schemes 61, Myddelton and Pembroke Roads, 20 flats; 63, Myddelton Road, 15 houses; and 65, Osborne Road, 2 houses.

**Islington.**—B.C. recommended to appoint E. C. P. Monson, 120 Moorgate, London, E.C.2, as architect, and Oswald E. Parrait, Adelaide House, London Bridge, London, E.C.4, as quantity surveyor for the following housing schemes: (a) Avenell Mansions extension; (b) Southgate Court extension; (c) Copenhagen Street; (d) Camden Walk; (e) Dartmouth Park Hill; (f) Leigh Road; (g) Playford Road; and (h) Wells Court extension.

**Keighley, Yorks.**—Housing Committee have approved proposed scheme for the erection of a block of twelve-storey flats on the Ebenezer Square clearance area site.

**Kincaidine.**—C.C. propose 62 more houses in the county and to replace 15 temporary houses at Newtonhill and 11 at Auchinblae.

**Leeds.**—Housing Committee have approved the erection of a twelve-storey block of flats in the grounds of the former Leeds Vicarage in Grosvenor Mount, Hyde Park.

**Leicester.**—Housing Committee have deferred scheme for 156 flats in three-storey blocks at Glen Parva.

**Magor and St. Mellons, Mon.**—R.D.C. are to proceed with the preparation of plans for the erection of 11-storey flats at Underwood Estate, Llanmartin.

**Maidenhead, Berks.**—B.C. recommended to approve in principle, subject to conditions, revised plans for the erection of between 450 and 500 units of accommodation with 12 shops, maisonnettes and garages at Norden Farm, for Davis Estates, 346 Kilburn High Road, London, N.15.

**Middlesbrough, Yorks.**—Premier Dwellings, Ltd., Albert Road, have received planning permission for 78 bungalows at Acklam Road.

**Narberth, Pems.**—R.D.C. are to re-invite tenders for the erection of six houses, six bungalows and eight garages at the Kilgetty hostel site.

**Newbiggin, Northumb.**—U.D.C. has prepared plans for 114 dwellings on the Moor housing estate.

**Penryn, Corn.**—B.C. propose the erection of 12 to 16 single-storey old people's bungalows at site adjoining Picketts' Yard.

**Ramsey, I. of M.**—B.C. have approved, subject to Local Government Board approval, plan for 4 houses at Park Road.

**Rothwell, Northants.**—U.D.C. have approved plan for 27 houses and bungalows off School Lane and Desborough Road, for Adkins and Shaw (Building Contractors), Ltd., St. James Street, Northampton.

**St. Germans, Corn.**—R.D.C. are to postpone for six months the erection of old people's dwellings at St. Germans, Quethiock, St. John, Antony, Landrake, and Compton Row, Callington.

**Stockton-on-Tees, Dur.**—The planning authorities have approved the erection of two blocks of flats, seven and eight storeys high at South Road, Norton, for Premier Dwellings, Ltd., Albert Road, Middlesbrough.

**Sunderland, Dur.**—Ministry have approved the erection of 12 aged persons' bungalows on the Grange Road site at Castletown for R.D.C.

**Sunningdale, Berks.**—Miss E. Ritchie-Thompson has submitted to Co. Planning Committee for approval, plans for the erection of 32 luxury flats in three units with 32 garages at Knowlewood.

**Sutton and Cheam, Surrey.**—Ministry to hold public inquiry into B.C.'s scheme for the demolition of houses at Benhill Avenue and erection on site of 356 houses. Estimated cost £11m.

**Wellington, Som.**—U.D.C. are to purchase land at Rockwell Green and in the centre of Wellington for future development.

**Wenlock, Salop.**—B.C. to submit to Ministry for approval, scheme for 358 houses, 12 shops and 109 garages at Madeley. Estimated cost £672,950.

**Whickham, Dur.**—Shield Brothers, Swalwell, Co. Durham, are to erect further houses at The Orchard.

**Woolwich.**—L.C.C. planning permission is being sought for housing redevelopment, etc., at the Co-operative Works, Federation Road and Knee Hill. Eley and Rickcord, 83 Powis Street, London, S.E.18, are the architects for the scheme.

#### PLAYING FIELDS, PARKS, ETC.

**Gosport, Hants.**—B.C. recommended to approve scheme for the conversion of the disused burial ground at Holy Trinity churchyard into a garden of rest. Estimated cost £3,200.

**Kidsgrove, Staffs.**—U.D.C. have deferred scheme for construction of a playing field at Harsiehead, estimated cost £5,000; approved plan for levelling a football field at Talke, £700.

**Kircaldy, Fife.**—B.C. have approved in principle plans for improvements at Dunnikier Park. Estimated cost £20,000.

**Uxbridge, Middx.**—B.C. have approved, subject to Ministry approval, scheme for the construction of a sports arena comprising seven-lane running track and sports field with changing accommodation, floodlighting, a public address system and a car park extension at Hillingdon Farm estate. Estimated cost £44,830.

**Whitwell, Derbs.**—Parish Council propose scheme for the development of the Coronation Recreation Ground to provide a football pitch, netball pitch, paddling pool and in an enclosure, a see-saw, slide, swings and roundabouts. Estimated cost £2,334.

#### RIVER AND FLOOD PREVENTION WORKS

**Cambridge.**—Great Ouse River Board have submitted to Ministry for approval, dredging scheme to prevent flooding of the River Ouse between Lodge Mill and Quay Mill. Estimated cost £4,500.

#### ROADS, BRIDGES AND SITE WORKS

**Amesbury, Wilts.**—R.D.C. to invite tenders shortly for the construction of site works for 80 dwellings at Bulford.

**Armagh.**—C.C. propose unemployment relief schemes during the winter. Estimated cost £80,000.

**Ballycastle, Antrim.**—R.D.C. propose unemployment relief work during the coming winter. Estimated cost £15,000.

**Denbighshire.**—C.C. have approved scheme to modernise Pont Ysbyty Bridge over the River Conway at Ysbyty Ifan. Estimated cost £2,500.

**Devon.**—Co. Roads Committee are to proceed with scheme to build a road from Ashcombe Cross on the Exeter-Teignmouth road, across to Fidler's Elbow, on the Exeter-Torquay road. Estimated cost £50,000.

**Falmouth, Corn.**—B.C. have approved scheme for the demolition of the main school building at Quarry School and adaptation of site as a car park.

**Hampshire.**—Roads and Bridges Committee are preparing detailed plans and will invite tenders in due course for the reconstruction of the bridge carrying the Winchester-Newbury Road over the railway line at Totthill, Burghclere.

**Liverpool.**—Lancs. C.C. have approved extension to the Speke Boulevard-Halewood Road fronting along the new Ford factory, and the provision of two-level accesses to the Ford works.

**Newcastle upon Tyne.**—A Joint Committee of the City Council and Durham C.C. have accepted plans for the proposed new Tyne bridge at Scotswood. A Parliamentary Bill is to be promoted and it will be 1963 before tenders are invited.

**Portsmouth.**—Health and Housing Committee have deferred for six months a scheme for hardstandings and footpaths at Paulsgrove. Estimated cost £3,500.

**Sunderland, Dur.**—Ministry have approved the construction of roads and sewers at Vicarage Farm, Silksworth, for R.D.C.

**Swinton, Lancs.**—C.C. recommended to approve scheme for the improvement of 800 yards of the East Lancashire Road at Swinton. Dual carriageways will be provided at a cost of about £23,355.

**Tyrone.**—C.C. propose unemployment relief schemes during the winter. Estimated cost £372,000.

**Up Holland, Lancs.**—U.D.C. propose scheme to improve Church Street. Estimated cost £1,533.



## SEWERAGE, SEWAGE AND REFUSE DISPOSAL

**Ellesmere, Salop.**—R.D.C. raise no objection to Oswestry R.D.C.'s proposal to construct sewage disposal works near Platt Bridge, Ruyton-Eleven-Towns.

**Narberth, Pems.**—R.D.C. are preparing final plans for the Saundersfoot sewerage scheme. Work is expected to start in May, 1962.

**Pwllhen, Caerns.**—Ministry have approved B.C.'s scheme for improving the sewerage system in stages.

**St. Germans, Corn.**—R.D.C. are to proceed to tender stage with sewerage schemes for Landrake, Calstock, Shevick and Tideford.

**Up Holland, Lancs.**—U.D.C. Surveyor to prepare scheme for the Appley Bridge sewerage scheme.

## STREET LIGHTING

**Cookstown, Tyrone.**—U.D.C. propose to provide fluorescent lighting in the town. Estimated cost £2,300.

**Gosport, Hants.**—B.C. recommended to apply for sanction to borrow £20,000 for the third stage of scheme for conversion of street lighting to electricity.

**Narborough, Leics.**—Parish Council to proceed with scheme for lighting Narborough Road South. Estimated cost £1,365.

**Wigan, Lancs.**—R.D.C. to apply for sanction to borrow £11,000 for provision of an additional 255 street lamps in the rural area.

## CONTRACTS

Full details of the Contracts marked \* will be found in our Advertisement Columns.

## BUILDING AND DECORATING

(See also Housing Schemes)

**Adlington, Lancs.**—Erection of a brick garage and paper salvage depot at the Storeyard, Church Street, for U.D.C. Documents from N. R. Bolton, surveyor, Council Offices, Railway Road, Adlington. Tenders by October 10.

**Antrim.**—Construction of additions and alterations to the laundry at Holywell Hospital for the Holywell Hospital Management Committee. Documents from the Secretary, Holywell Hospital Management Committee, Holywell Hospital, Antrim. Deposit £3 3s. Tenders by Oct. 5.

**Antrim.**—Erection of a wash-house and fuel stores at Conway Children's Home, Islandmagee, for County Welfare Committee. Documents from Dalzell and Campbell, architects, Bath Street, Portrush. Deposit £1 1s. Tenders by Oct. 4.

**Armagh.**—Construction and completion of new Rye-grass house and foundations for glasshouse at Loughgall Plant Breeding Centre, Loughgall, Co. Armagh, for Ministry of Finance. Documents from Room 103, Law Courts Building, Belfast, 1. Tenders by October 9.

**Bedford.**—Erection of out-patient department, etc., at General Hospital, for North-West Metropolitan Regional Hospital Board. Apply by October 30.

**Belfast.**—Erection of an extension to Have-lock House, Ormeau Road, for Ulster Television, Ltd. Documents from the office of the quantity surveyors, Roe, Stevenson and Sons, 33 College Gardens, Belfast, 9. Deposit £5 5s. Plans seen at the offices of Anthony F. Lucy and Co., architects, 13 Lombard Street, Belfast, 1. Tenders by October 16.

**Belfast.**—New school buildings and playing fields at Ardilea, 740 Shore Road, Newtownabbey. Documents from V. B. Evans and Co., chartered quantity surveyors, Provincial Bank Chambers, 3 Bradbury Place, Belfast, 7. Deposit £5 5s. Tenders by Oct. 20.

**Biddulph, Staffs.**—Undermentioned works, and supply and erection of precast concrete garages, off Lawton Street, for U.D.C.: (a) Site preparation works, including bituminous macadam hardstanding and concrete garage bases; (b) supply and erection of 16 precast concrete garages. Documents from the office of the Engineer and Surveyor, Council Offices, Biddulph. Deposit £2 2s., cheques payable to U.D.C. Tenders by October 16.

**Cambridgeshire.**—Erection of workshop, classroom, cloaks and store at the Training Centre, Coldham's Lane, Cambridge, for C.C. Applications to the County Architect, Shire Hall, Cambridge, by Oct. 2.

**Carmarthenshire.**—Alterations, repairs and re-decorations at The Public Hall, Felinfoel, near Llanelly, for Co. E.C. Applications to W. T. Lloyd, county architect, County Hall, Carmarthen, by September 30. Tenders by October 21.

**Chelmsford, Essex.**—Construction of a six-rink bowling green, at Central Park, for B.C.

Documents from the Parks Superintendent, Municipal Offices, Chelmsford. Deposit £2 2s. Tenders by October 20.

**Crowthorne, Berks.**—Construction of extensions to the cloakroom and toilet accommodation at the Parish Hall, Heath Hill Road, Crowthorne for Parish Council. Documents from Harry C. Lloyd, clerk to the Parish Council, Crowthorne. Tenders by Oct. 7.

**Croydon, Surrey.**—Thirty-five pram stores, small maintenance store, 24 garages and parking areas for 32 cars to be erected on the Auckland Rise housing estate, for B.C. Applications to the Borough Engineer, Town Hall, Croydon. Tenders by October 30.

**Dagenham, Essex.**—Concrete roof tiling, 52 houses at Oxlow Lane estate for B.C. Documents from the Borough Engineer and Surveyor, Civic Centre, Dagenham. Tenders by Oct. 7.

**Darwen, Lancs.**—Repair of certain houses for B.C. Documents from the Senior Public Health Inspector, Civic Health Centre, Union Street, Darwen. Tenders by Oct. 6.

**Down.**—Following works at the new head-quarter office accommodation at 18 Windsor Avenue, Belfast, 9, for Co. E.C.: (a) Erection and completion of superstructure on prepared foundations; (b) heating and plumbing installation; (c) electrical and lift installation. The plans and specification for (a) may be inspected at the office of Grant R. Twist, architect, 141 Scottish Provident Buildings, Belfast, 1, and W. H. Stephens and Sons, quantity surveyors, 13 Donegall Square North, Belfast, 1. Deposit £5 5s. Documents for (b) and (c) from Varming and Mulchay, consulting engineers, 37 Malone Road, Belfast, 9. Deposit £3 3s. payable to the Co. E.C. Tenders by Oct. 16.

**Dundee.**—(1) Several works, and (2) painter work to be undertaken in connection with the alterations to the annexe of police headquarters at West Bell Street, for City Council. Applications to the City Quantity Surveyor, 21 City Square, Dundee. Tenders by October 4.

**Durham.**—Following for C.C.: Felling Leam Lane St. Augustine's R.C. (Aided) School, prefabricated demountable classrooms; Cleadon C.E. (Controlled) School, prefabricated demountable classrooms; Fire Brigade Headquarters, Framwellgate Moor—training school—(a) tactical room seating, (b) electrical installation, (c) heating installation; Bishop Auckland Fire Station, Phase II, (a) electrical installation, (b) heating and domestic hot water installation. Applications to County Architect, South Street, Durham, by October 4.

**Eastbourne, Sussex.**—External painting of 253 houses and flats in five groups, for B.C. Tenders may be submitted for one or more of the groups. Documents from Borough Surveyor, 2/4 Saffrons Road, Eastbourne, forthwith. Tenders by Oct. 6.

**East Suffolk.**—Erection of additional classrooms and lavatories, at Ringshall Primary School, totalling some 2,850 sq. ft. floor area, together with minor alterations to the existing buildings, for C.C. Applications to the County Architect, County Hall, Ipswich, before October 3. Tenders by November 9.

**Essex.**—Chelmsford Training Centre extensions for C.C. The work consists of a new utility room and stores estimated cost £4,400. Applications to H. Conolly, county architect, County Hall, Chelmsford, by Sept. 30.

**Essex.**—Following for C.C.: (1) Ilford Fire Brigade Training School—alterations and additions in traditional construction, estimated cost £6,000; (2) Wanstead Training Centre—new classroom and extensions to dining room in traditional construction, estimated cost £3,000; (3) Chelmsford Training Centre—new utility room and stores in traditional construction, estimated cost £4,400. Applications to H. Conolly, county architect, County Hall, Chelmsford, by Sept. 30.

**Fifeshire.**—Cowdenbeath, Beath High School (approximately 85,000 sq. ft.); Kirkcaldy, Balwearie Secondary School (approximately 84,400 sq. ft.), for C.C. All trades at the above two new schools should apply to the County Clerk, County Buildings, Cupar, by October 4, when schedules for Beath High School will be issued to selected applicants in due course. The Balwearie Secondary School contract will be an extension contract based on the successful tender for Beath High School and will probably require to be commenced approximately two months later, the two contracts running concurrently thereafter.

**Hampshire.**—Romsey County Primary School, erection of phase I in traditional construction, comprising assembly hall, store, toilets, etc., and having an area of approximately 3,900 sq. ft. for C.C. Applications to the County Architect, The Castle, Winchester, by Oct. 3. Deposit £1 1s. (cheques payable to the County Treasurer).

**Harrow, Middx.**—Erection of public convenience, for B.C. Deposit £2. Tenders by October 31.

**Herefordshire.**—Erection of new fire stations at Fownhope (seven miles south-east of Hereford) and Kingston in traditional brick construction for C.C. Applications to the County Architect, Bath Street, Hereford, by Oct. 2. Deposit £2 2s.

**Heston and Isleworth, Middx.**—Installation of wash-hand basins in 75 houses for B.C. Tenders by Oct. 23.

**Heston and Isleworth, Middx.**—Public convenience, Broadway, for B.C. Tenders by October 16.

**Heston and Isleworth, Middx.**—Erection of stores and workshop, for B.C. Deposit £2 2s. Tenders by October 31.

**Hove, Sussex.**—Conveniences in Goldstone Villas for B.C. Deposit £3 3s. Tenders by Oct. 23.

**Huntingdonshire.**—Following for C.C.: (1) Modernisation of semi-detached cottages (including installation of bath, w.c., hot water system and extension of drains) at Docksey's Farm, Hemingford Grey; (2) modernisation of detached cottage (including lean-to extension and septic tank drainage), part Dawson's Farm, off Puddock Road, Warboys. Documents for either or both schemes from the County Land Agent, Walden House, Huntingdon. Tenders by Oct. 11.

**Huntingdonshire.**—Erection of 12-bed reception home at Huntingdon, for C.C. The building will be of two-storey traditional load-bearing brick construction with pitched roof. Submit names to S. M. Holloway, county architect, County Buildings, Huntingdon, by noon, Oct. 12. Tenders by Nov. 20.

**Hyde, Ches.**—Construction of a public convenience at Gee Cross for B.C. Documents from the Borough Engineer and Surveyor, Municipal Buildings, Greenfield Street, Hyde. Tenders by Oct. 9.

**Lancashire.**—Alterations at the Ditton (Widnes) Police Station for C.C., involving new toilets, storage accommodation and lay-by, and includes the erection of a brick-built garage, services and finishes. Applications to the County Architect, P.O. Box 26, County Hall, Preston, by Oct. 2.

**Liverpool.**—Alterations and improvements to 11 cottages, Kirkby, for City Council. Documents from City Architect and Director of Housing, Blackburn Chambers, Dale Street, Kingsway, Liverpool, 2. Deposit £2 2s. payable to City Treasurer. Tenders by Oct. 4.

**Liverpool.**—Construction of small pavilion, Lester Gardens, for City Council. Documents from the City Architect and Director of Housing, Blackburn Chambers, Dale Street, Kingsway, Liverpool, 2. Deposit £2 2s. payable to City Treasurer. Tenders by Oct. 10.

**Liverpool.**—Construction of changing accommodation, Derryhouse Lane, for City Council. Documents from the City Architect and Director of Housing, Blackburn Chambers, Dale Street, Kingsway, Liverpool, 2. Deposit £2 2s. payable to the City Treasurer. Tenders by Oct. 6.

**Magherafelt, Londonderry.**—Reconstruction of Post Office, Rainey Street, for the Ministry of Finance, Londonderry. Documents from Room 103, Law Courts Building, Belfast, and also seen at Ministry of Labour and National Insurance local office, Rainey Street, Magherafelt. Deposit £2. Tenders by October 18.

**Maidenhead, Berks.**—Erection of a public convenience, together with all necessary site works at Ray Mead Road, for B.C. Applications to the Borough Engineer and Surveyor, 14 Craufurd Rise, Maidenhead, by Sept. 30. Deposit £2 2s.

**Mansfield, Notts.**—Two tenants' meeting rooms at Bull Farm housing estate, contract 35, for B.C. Deposit £2 2s. Tenders by October 18.

**Morecambe and Heysham, Lancs.**—Extensions, Transport Depot, Heysham Road, for B.C. Documents from the office of the Borough Engineer and Surveyor, Council Offices, Morecambe and Heysham. Deposit £2. Tenders by October 9.

**Norfolk.**—Erection of the following new schools for Co. E.C.: Litcham County Primary, Marham Secondary Modern. Applications to F. Lincoln Ralphs, chief education officer, County Education Office, Stracey Road, Norwich, NOR 49A, by Oct. 9.

**Northern Ireland.**—Plumbing, electrical and patent tile flooring sub-contracts in 29 dwellings at Rampart Street, Dromore (Co. Down) for Housing Trust. Documents from the offices of the Trust, 12 Hope Street, Belfast, 12. Tenders by Oct. 6.

**North Riding.**—Erection of a clinic, nurse's flat, library, at Loftus, for C.C. Applications to the County Architect, County Hall, Northallerton, by October 2. Tenders by October 31.

**Nuneaton, War.**—Erection of a house and lock-up shop in Queen Elizabeth Road, Camp Hill estate for B.C. Applications to H. N. Iepson and Partners, architects, Midland Bank Chambers, Newdegate Place, Nuneaton, or to the Borough Surveyor, Council House, Nuneaton. Deposit £2 2s. Tenders by Oct. 23.

**Oldham, Lancs.**—Demolition of 1, 3, 5 and 7 Whalley Street, and 40a and 40b Henshaw Street and the erection on the cleared site of the new cafe, for B.C. Documents from Cameron and Middleton, quantity surveyors, 21 Mumps, Oldham. Deposit £2 2s., cheques, etc., crossed and payable to the Borough Treasurer. Tenders by Oct. 9.

**Oxfordshire.**—Additional accommodation at the following for C.C.: (1) Chilterns End old people's home; (2) Bucknell Manor old people's home, consisting in each case of a single-storey annexe in traditional construction for 12 residents. Applications to the County Architect, Park End Street Offices, Oxford, by Sept. 30.

**Portsmouth.**—Following for City Council: (a) Fifty-four flats, Halstead Road; (b) six shops and maisonnettes, two flats and housing office, Paulsgrove; (c) Copnor Modern School for Girls and Primary School, alterations. Applications to the City Architect, 1 Western Parade, Portsmouth, by Oct. 2. Deposit £1 each.

**Portsmouth.**—Modernisation: St. Faiths Road, Flats, Landport. Block 33-36 (four flats) for City Council. Applications to the Director of Housing, 1 Clarence Parade, Southsea, by Oct. 6. Deposit £1.

**Radcliffe, Lancs.**—External and internal painting at Ambulance Drill Hall, Mellor Street, for B.C. Documents from the Borough Engineer and Surveyor, Town Hall, Radcliffe. Tenders by October 2.

**Romford, Essex.**—Chelmsford Avenue Adventure Playground, play huts and toilets. Provision and erection of a sectional concrete building measuring approximately 36ft. x 18ft. The contract will include for foundation work, drainage, plumbing, etc., for B.C. Documents from Borough Engineer and Surveyor, Town Hall, Romford. Deposit £2 2s., cheques. Tenders by October 30.

**Settle, Yorks.**—Removal of existing steel framed windows and the provision and fixing of new windows and glazing in 12 houses at Bentham and 12 houses at Hellifield, for R.D.C. Documents from the office of the Engineer and Surveyor, Town Hall, Settle. Tenders by October 9.

**Stockton-on-Tees, Dur.**—Erection of Harrogate 2 F.E. Junior School at Hardwick, for B.C. Applications to the Borough Architect, 28 The Square, Stockton-on-Tees. Tenders by October 23.

**Thurrock, Essex.**—Rebuilding of 32 chimney stacks, Tilbury area, for U.D.C. Specifications from the Estates Manager, Council Offices, Whitehall Lane, Grays, Essex. Tenders by Oct. 16.

**West Riding.**—Pre-painting repairs and painting at Goole Pasture Road Infants' School for C.C. Documents from J. H. Crabtree, Education Offices, Goole. Tenders by Oct. 20.

**West Riding.**—Pre-painting repairs at the Brinsworth School, for C.C. Documents from A. E. Hall, 38 Moorgate Road, Rotherham. Tenders by October 9.

**Willesden, Middx.**—Construction of retaining wall, etc., for B.C. Tenders by Oct. 11.

**Winchester, Hants.**—Winchester abattoir—alteration and extensions (stage I) for Wessex Slaughterhouse Board. Applications to the office of the Engineer to the Board, Westbury Manor, Fareham, Hants. Deposit £2. Tenders by Oct. 23.

**Wokingham, Berks.**—Alterations and improvements to the following for R.D.C.: (1) Eight houses, Eversley Road, Arborfield Cross; (2) four houses, Merryhill Green, Winkers; (3) five houses, Hulme Green, near Wokingham. The work includes for minor alterations, provision of hotwater systems and new drainage. Documents from the Surveyor, Council Offices, Shute End, Wokingham. Deposit £2 2s. Tenders by Oct. 18.

**Worksop, Notts.**—External alteration to the western elevation of the Town Hall. Potter Street, for B.C. Documents from the Borough Engineer, Par House, Worksop. Tenders by October 9.

#### CLOTHING AND TEXTILES

**Aberdare, Glam.**—Supply uniform and protective clothing for U.D.C. Tenders by Oct. 20.

**Belfast.**—Four hundred waterproof coats (form 1167) for City Council. Applications to the Transport Department, Sandy Row Depot, Belfast, 12. Tenders by Oct. 10.

**Dewsbury, Yorks.**—Supply of shirts, collars and ties for fire service department, for B.C. Documents from the Chief Fire Officer, Longcausway, Dewsbury. Tenders by October 4.

**Flintshire.**—Supply overalls, etc., for C.C. Tenders by Oct. 16.

**Merthyr Tydfil, Glam.**—Supply of approximately 250 each uniforms and caps, for B.C. Documents from T. S. Evans, town clerk, Town Hall, Merthyr Tydfil, Glam. Tenders by Oct. 23.

#### DEMOLITION

**Abertillery, Mon.**—Demolition of 24, 25, 25a and Rockworth Villa, High Street, Llanhilleth, for U.D.C. Plans seen by appointment with the Engineer and Surveyor, Council Offices, Abertillery. Documents from John Evans, clerk of the Council, Council Offices, Abertillery. Deposit £2 2s. Tenders by Oct. 9.

**Forfar, Angus.**—Demolition of 41 houses and site clearance in the West End redevelopment area for B.C. Applications to the Town Clerk, Council Offices, Forfar.

**Gloucestershire.**—Demolition of masonry pier and abutments at Haw Bridge, over the River Severn (B.4213), and transport of material to nearby disposal site, for C.C. Documents from County Surveyor, Quay Street, Gloucester. Deposit £5, payable to C.C. Tenders by October 27.

**Hereford.**—Demolition of 35, 37 and 39 Blueschool Street for City Council. Applications to the City Surveyor, Town Hall, Hereford. Tenders by Oct. 6.

**Watford, Herts.**—Demolition of a chapel situated in the grounds of Shrodelles Hospital, for West Herts. Group Hospital Management Committee. Documents from H. M. Maskell, group secretary, 9 Rickmansworth Road, Watford. Tenders by Oct. 16.

#### ELECTRICAL

**Credon, Devon.**—Electricity installation and modernisation of council houses at Poughill, for R.D.C. Tender 1—5-10 East End, and 1-2 Oxford Square, Poughill (eight houses), wiring of houses for electricity, including provision of eight wash-boilers; Tender 2—1-4 East End, and 1-4 West End, Poughill (eight houses), modernisation of eight pre-war Council houses, including the provision of bath, washhand basin, sink, hot water system, wiring for electricity and supply of eight wash-boilers. Documents from the Surveyor, Council Offices, Union Terrace, Credon. Tenders by Oct. 13.

**Gosforth, Northumb.**—Electrical installation in connection with the erection of one block of 10 flats at Craser Square, for U.D.C. Documents from Waring and Netts, chartered architects, 2 Lansdowne Terrace East, Gosforth. Tenders by October 2.

**Omagh, Tyrone.**—Electrical installation in four cottages at Carnalea, one at Kilcoulter and one at Kilgort, Fintona, for R.D.C. Documents from Joseph P. Robinson, clerk of the Council, Rural District Council Office, Lisnamallard, Omagh. Deposit £2 2s. Tenders by Oct. 4.

#### FENCING

**Aberdare, Glam.**—Renewing fences at the Penywaun housing estate, for U.D.C. Documents from the Engineer and Surveyor, Vestry Hall, Aberdare. Tenders by October 13.

**Romford, Essex.**—Chain link fencing—Oldchurch Park, for B.C. Deposit £2 2s. Tenders by Oct. 10.

**Southgate.**—Fencing works as follows, for B.C.: Contract 1721, provision and erection of approximately 274 lin. yd. of concrete palisade fencing; 1726, provision and erection of approximately 834 lin. yd. of chain link fencing in various heights. Applications, in writing, to the Borough Engineer and Surveyor, Town Hall, Palmers Green, N.13. Tenders by October 9.

#### GAS AND WATER SUPPLY

**Coleraine, Londonderry.**—Bulk gas supply for B.C., including the laying of approximately 9,200yd. of 8in. diameter spun-iron gas mains from Coleraine to Portrush. Applications to the Engineer and Manager, Coleraine Borough Council, Gas Department, Hanover Place, Coleraine. Tenders by Oct. 30.

**Cork.**—Supply of 5,000yd. of 4in. class C cast-iron watermain, complete with flexible joints, for City Council. Price quoted should include for delivery to the Corporation Yard, Anglesea Street, Cork. Tenders by October 3.

**Newport, Mon.**—Supply of pipe to Mathern for Newport and South Monmouthshire Water Board, including the laying of approximately 1,240yd. of 6in. diameter and 670yd. of 4in. diameter spun-iron water mains and ancillary works. Documents from the Engineer and Manager, Royal Chambers, High Street, Newport. Deposit £2 2s. Tenders by Oct. 16.

**Richmond, Yorks.**—Marske water, contract 1, for R.D.C. Deposit £3 3s. Tenders by Oct. 26.

**South Cambridgeshire.**—Eastern area water supply, Rivey Hill reservoir and booster station, contract 5, for R.D.C. Deposit £5 5s. Tenders by Oct. 24.

**Taunton, Som.**—Obridge link water main for B.C. Deposit £2 2s. Tenders by Oct. 18.

**Workington, Cumb.**—Workington middle zone supply, contract 12, for West Cumberland Water Board. Tenders by Oct. 31.

#### HEATING AND VENTILATING

**Leeds.**—Supply and installation of one additional economic steam boiler and mechanical stokers at Seacroft Hospital, York Road, for Regional Hospital Board. Deposit £2 2s. Tenders by November 1.

**Newry, Down.**—L.P.H.W. heating, hot, cold and drinking water service installations, Head Post Office, for Ministry of Finance. Documents from Room 103, Law Courts Building, Belfast, 1. Tenders by October 16.

**Newry, Down.**—Low pressure hot, cold and drinking water service installations, Head Post Office, Newry, for Ministry of Finance. Documents from Room 103, Law Courts Building, Belfast, 1. Tenders by Oct. 16.

**Newry, Down.**—Supply and installation in the Town Hall, Newry, of a purpose-made multi-tube high pressure heating boiler, to replace the existing unserviceable one, for U.D.C. Documents from the Town Architect, Town Hall, Newry. Tenders by Oct. 9.

**Wallasey, Ches.**—Modernisation of boiler plant, Central Police Station, Manor Road, for B.C. Documents from the Borough Architect, Town Hall, Wallasey. Tenders by October 11.

**Wallasey, Ches.**—Conversion of solid fuel heating installation to oil burning, for B.C. Documents from the Borough Architect, Town Hall, Wallasey. Tenders by October 11.

**West Riding.**—Installation of additional boiler house equipment at County Welfare Establishment, Beech Towers, Staincliffe, near Dewsbury, for C.C. Applications to the office of the County Architect, Bishopgarth, Westfield Road, Wakefield. Tenders by October 13.

#### HOUSING SCHEMES

**Amphill, Beds.**—Eight dwellings, Fakeswell Lane, Lower Stondon, for R.D.C. Applications to Engineer and Surveyor, The Limes, 12 Dunstable Street, Amphill, by Oct. 4. Deposit £2 2s.

**Brierley Hill, Staffs.**—Market Street housing site, section 4, scheme TT—14 houses, for U.D.C. Applications to John R. Moore, architect and housing director, Civic Buildings, Brierley Hill, by Oct. 4. Deposit £2 2s.

**Bromley, Kent.**—Thirty houses and 70 flats at Burnt Ash Lane for B.C. Applications by Oct. 13.

**Deben, Suffolk.**—Three pairs of one-bedroom bungalows in the parish of Waldringfield for R.D.C. Submit names to the Engineer and Surveyor, Council Offices, Melton Hill, Woodbridge. Deposit £2 2s. Tenders by Oct. 11.

**Essex.**—Following police houses for C.C.: Weeley—one house, with office, £3,650; Elmstead—one house, with office, £3,650; Fyfield—one house, with office, £3,650; Braintree—one pair, £5,375; Colchester—two pairs, £10,750; Burnham-on-Crouch, one pair, with office, £6,200; Canvey Island—one pair, £5,375; Romford Main Road—one house, £4,400. Separate applications to H. Conolly, county architect, County Hall, Chelmsford, by Sept. 30.

**Essex.**—Police house, Oaks Avenue, Romford, for C.C. The estimated cost is £2,875. Applications to H. Conolly, county architect, County Hall, Chelmsford, by Sept. 30.

**Fairworth, Lancs.**—Four blocks of two-storey flats (each containing four single persons' dwellings) at Dean Street for U.D.C. The work entailed is the erection of the flats, drainage, erection of dwarf walls, fencing and the laying out of gardens and paved areas. A small cul-de-sac is to be constructed and approximately 100 lin. yd. of 10in. by 8in. natural stone kerbs are to be taken up and relaid. The permanent roads are constructed and can be used by the contractor. Documents from the office of the Engineer and Surveyor, Town Hall, Oldham, Fairworth, near Manchester. Deposit £4 4s. Tenders by Oct. 7.

**Hebburn, Dur.**—One hundred and two aged persons' bungalows of traditional construction, at Hebburn Ponds site, for U.D.C. Written applications to the Engineer and Surveyor, Council Offices, Argyle Street, Hebburn, by September 30. Deposit £3 3s.

**Middleton, Lancs.**—Twenty houses and 24 flats, Rhodes, for B.C. Documents from the Borough Surveyor, Town Hall, Middleton. Deposit £2 2s. Tenders by October 14.

**Musselburgh, Midlothian.**—A three-storey block of three houses (one two-apartment and two three-apartment flats) to complete an existing three-storey block at Bush Street (all trades bases), for B.C. Documents from the Borough Surveyor, Municipal Offices, Musselburgh. Tenders by October 24.

**Narberth, Pems.**—Six three-bedroom houses, four two-bedroom bungalows, two one-bedroom bungalows, and eight garages, at the Hostel site, Kilgetty, for R.D.C. Documents from the Council Offices, Narberth. Deposit £3 3s. Tenders by October 5.



**Newbiggin - by the Sea, Northumb.**—One hundred and fourteen Homeville traditional houses, two-storey flats and bungalows with external works and services and roadworks at Moor housing estate for U.D.C. Documents from the Surveyor, Council Offices, Newbiggin-by-the-Sea. Deposit £5 5s., payable to U.D.C. Tenders by Oct. 30.

**Northamptonshire.**—Higham Ferrers—pair of police houses for Standing Joint Committee Applications to the County Architect, County Hall, Northampton, by Oct. 2.

**Northfleet, Kent.**—Twelve houses (traditional brick construction) on the Painters Ash estate for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Northfleet. Deposit £2 2s. Tenders by Oct. 12.

**Nuneaton, War.**—A block of three-storey houses and two blocks of three-storey flats in Queen Elizabeth Road and Cedar Road, Camp Hill estate, for B.C. Applications to George Eastwood, architect, 2 Bond Gate, Nuneaton, or to the Borough Surveyor, Council House, Nuneaton. Deposit £2 2s. Tenders by Oct. 30.

**Oldham, Lancs.**—Demolition of flats 280, 282a and 282b the property known as Thorneycroft, Ripponden Road, and the erection of eight permanent traditional dwellings and eight brick garages on the cleared site and grounds, for B.C. Documents from Cameron and Middleton, chartered quantity surveyors, 21 Mumps, Oldham. Deposit £2 2s., cheques payable to Borough Treasurer. Tenders by Oct. 16.

**Oldham, Lancs.**—Thorneycroft development for B.C. Deposit £2 2s. Tenders by Oct. 16.

**Pontypool, Mon.**—Twenty-two traditional bungalows on existing slabs at Arcon bungalow site, New Inn, for U.D.C. Applications to the Architect, Council Offices, Pontypool. Deposit £1 1s. Tenders by Oct. 23.

**Welshpool, Monts.**—Four new houses at Oldford, together with the necessary site and drainage works for the Mid-Wales Police Authority. Documents from P. E. White, clerk to the Police Authority, County Offices, Welshpool. Tenders by Oct. 16.

**West Lothian.**—Following trades in respect of houses to be erected on a number of gap sites at Longridge for C.C.: (1) Excavator, concretor, mason and brick works; (2) carpenter and joiner works; (3) glazier work; (4) slater, tiler and roughcast works; (5) plumber work; (6) plaster and cement works; and (7) electrical work. Applications to John Calder, county clerk, County Buildings, Linlithgow, by Oct. 4.

**Wokingham, Berks.**—Five traditional type dwellings of three different types of houses for sale, for B.C. Documents from the Borough Surveyor, Town Hall, Wokingham. Tenders by October 16.

#### MATERIALS AND SUPPLIES

**Belfast.**—Supply of ironmongery, new office building, Stormont, for Ministry of Finance. Documents from Room 103, Law Courts Building, Belfast, 1. Tenders by October 10.

**Blackpool, Lancs.**—Supply road signs for B.C. Tenders by Oct. 13.

**Chester-le-Street, Dur.**—Supply of the following for 94 dwellings at Barley Mow, for R.D.C.: (1) General building materials; (2) precast concrete goods; (3) hardware; (4) windows, doors, frames and casings; (5) staircases; (6) timber carcassing dressed. Documents from F. Bowman, architect, Estate Office, Durham Road, Birtley. Tenders by Oct. 3.

**Dundee, Angus.**—Supply of speed limit signs, for City Council. Particulars from the City Engineer, 21 City Square, Dundee. Tenders by October 7.

**Durham.**—Supply of pianos for C.C. Tenders by Oct. 9.

**Leicestershire.**—Following for C.C.: School furniture; floor polishes, oil and sweeping compound; galvanised hollow-ware; gymnastic equipment; brushes, brooms and mops; overalls and aprons; heavy canteen equipment. Application forms from Director of Education, Grey Friars, Leicester, to be returned by October 7.

**Plymouth.**—Supply of fortic tanks, copper tube and fittings, lavatory basins and fittings, and rainwater pipe, for improvements to 308 dwellings, for City Council. Documents from the City Engineer, Guildhall, Plymouth. Tenders by October 4.

**Ulster.**—Supply of the following requirements for the 12 months commencing Jan. 1, 1962, for the Ulster Transport Authority: (Contract 51) Grinding wheels, segments etc.; (52) pistons, cylinder liners and piston rings; (53) high speed steel twist drills, taps and dies, tap wrenches, die stocks and solid hexagon die nuts; (54) uniform greatcoats; (55) iron castings (ordinary), chairs, brake

blocks and firebars; (56) jointings—graphite, hard vulcanised fibre, rubber insertion, paper and laminated cork, fibre washers, etc.; (57) weed-killing materials; (58) drawing office requisites; (59) wood screws; (60) high tensile bolts, nuts and set screws; (60a) permanent way fastenings; (61) machine screws and nuts; (62) transfers for carriages, buses, etc.; (63) belting; (64) brake and clutch linings, bonnet tape and fan belts; (65) batteries and battery plates, etc.; (66) hinges, brass and steel; (67) vulcanising tyres; (68) hacksaw blades and bandsaw blading; (69) fire extinguishers and refills; (70) Butane gas for cooking purposes; (71) aluminium (sheet); (72) canvas; (73) linen and cotton goods; (74) patent wadding; (75) linoleum; (76) hose clips (worm drive type); (77) electrical accessories, adaptors, plugs, switches, etc.; (78) p.v.c. and cotton sleeving; (79) machinery cleaning cloths service; (80) aluminium sections; (84) roofing felt and accessories; (85) plasterboard, insulating board and hardboard; (86) wallpapers and accessories; (87) imported and homegrown softwood; (88) road vehicle springs. Form of tender, together with a gummed addressed label for reply, from the Stores Superintendent, Duncrue Street, Belfast, 3. Deposit 1s. each form. Samples to be sent direct to the Stores Superintendent, Ulster Transport Authority, Duncrue Street, Belfast 3. Tenders by Oct. 6.

#### MISCELLANEOUS

**Belfast.**—Supply and erection of V.H.F. fixed and mobile, frequency-modulated, 25Kc/s channel spacing, radio telephone communications equipment, for City Council. Documents (W.199) from Electricity Department, East Bridge Street, Belfast, 1. Deposit £2 2s. Tenders by October 13.

#### PLANT AND MECHANICAL TRANSPORT

**Durham.**—Supply of following for C.C.: (a) Bedford lorries; (b) Massey Ferguson FE 35 and 203 tractors and equipment; (c) Allen trencher. Documents from the Superintendent of Playing Fields, 26 Market Place, Durham. Tenders by Oct. 7.

**Ramsbottom, Lancs.**—Following equipment, for U.D.C.: (a) Tractor with hydraulically operated bucket loader, the bucket being capable of up-and-over action, the tractor shall be fitted with electric lighting and starting, and be in every respect suitable for use on the public highway, a driver's cab shall also be incorporated; (b) trailer compressor, this should comprise an engine and a two-tool compressor. Documents from the Engineer and Surveyor, Council Offices, Ramsbottom, via Bury. Tenders by October 16.

**Ross and Whitechurch, Heres.**—Supply and delivery of a new Ford Thames (diesel engine) 10 cu. yd. capacity refuse collection vehicle, for R.D.C., in part exchange for 1955 model of same vehicle in good running order which may be viewed at Council Offices by appointment. Tenders endorsed "Refuse Collection Vehicle," to G. E. Hardy, surveyor to the council, Woodside, Ross-on-Wye, by noon, October 5.

**Ventnor, I. of W.**—Supply and delivery of a new 35cwt. Bedford lorry with end tipping body powered by a diesel engine and complete with body hydraulic tipping gear, for U.D.C. Alternative tenders for a similar lorry of another make will be considered. The suppliers must include in their tender an offer to take in part-exchange an existing 1949 Bedford truck. Documents from C. E. Davies, clerk of the council, Council Offices, Salisbury Gardens, Ventnor, I. of W. Tenders by October 7.

#### PLAYING FIELDS, PARKS, ETC.

**Belfast.**—Construction of playing fields on a 100-acre site at Malone for Queen's University of Belfast. Documents from Munce and Kennedy, consulting engineers, 133 University Street, Belfast, 7, or at Chiron House, 10-11 Bulstrode Place, London, W.1.

**Croydon, Surrey.**—Resurfacing seven tennis courts for B.C. Tenders by Oct. 26.

**Leeds.**—Supply of approximately 10,000 sq. yd. of turf, for City Council. Documents from Parks Department, Room 113, Civic Hall, Leeds, 1. Tenders by October 10.

#### ROADS, BRIDGES AND SITE WORKS

**Birmingham.**—Following for City Council: (a) The construction of carriageways and footways on Calthorpe Park redevelopment area, unit 502; (b) the reconstruction of Stratford Road (part 2), River Cole to Hamlet Road (part). Documents from the office of Sir Herbert J. Manzoni, city engineer and surveyor, Baskerville House, Civic Centre, Birmingham, 1. Deposit £2 2s. each. Plans for the works can be seen in Room 339, Baskerville House. Tenders by Oct. 11.

**Bridgwater, Som.**—West Street improvement for B.C. Deposit £2 2s. Tenders by Oct. 9.

**Brierfield, Lancs.**—Making-up of three private streets for U.D.C. Deposit £2 2s. Tenders by Oct. 12.

**Carlton, Notts.**—Making-up of Castleton Avenue for U.D.C. Deposit £2. Tenders by Oct. 17.

**Castleford, Yorks.**—Making-up of private streets in Manor Grove area, Glasshoughton, streets 132-148 inclusive, for B.C. Deposit £2 2s. Tenders by Oct. 13.

**Cheshunt, Herts.**—Making-up of Ruthven Avenue, length 170yd., for U.D.C. Documents from the office of the Engineer and Surveyor, Manor House, Cheshunt. Deposit £2. Tenders by Oct. 13.

**Crompton, Lancs.**—Making-up of Back Buckstones Road and Back George Street, for U.D.C. Applications to J. E. Gledhill, engineer and surveyor, Town Hall, Shaw, near Oldham. Deposit £2. Tenders by October 9.

**Derbyshire.**—Grindleford—Nether Padley road A.6011, footbridge over River Derwent at Grindleford. Supply and delivery only to Grindleford of six precast tensioned concrete beams, approximately 35ft. long, for C.C. Documents from the Clerk of the County Council, County Offices, Matlock, Derbyshire. Tenders by October 16.

**Derbyshire.**—Levelling, paving, kerbing, draining and surfacing the following private street(s), for C.C.: (a) Broadway, Duffield; (b) Manor Road, Chellaston; (c) Harrimans Drive, Breaston; (d) Oakleigh Avenue (part), Ravenscroft Drive (parts), and Rushcliffe Avenue, Chaddesden. The works include 200 lin. yd. 6in. by 9in. surface water drainage; 1,300 lin. yd. kerbing; 15,000 super. yd. carriageway and footpath surfacing in coated macadam and cold asphalt. Documents from County Surveyor, County Offices, Matlock. Deposit £2, cheques payable to C.C. Tenders by Oct. 10.

**Dorset.**—Construction of cantilevered footway at Longham Bridge for C.C. Tenders by Oct. 20.

**Down.**—Realignment of the Belfast to Newtownards Road (route A20) for a length of about 970yd. between Knock Golf Club and Dundonald, for C.C. Documents from the County Surveyor, County Surveyor's Office, English Street, Downpatrick. Tenders by October 10.

**Down.**—Reconstruction in 24ft. single carriageway of a section of route T.2 (Belfast/Newcastle Road) for approximately 1,380 lin. yd. between the villages of Clough and Dundrum in the townlands of Clough, Knocksticken and Ardilea, for C.C. Documents from C. A. Craig, county surveyor, County Surveyor's Office, English Street, Downpatrick. Deposit £10 sterling, cheques payable to Council. Tenders by Oct. 24.

**East Riding.**—Selby-York trunk road, A.19, improvement from Derwent House to Deighton Annexe, for C.C., including approximately 900yd. of single carriageway on the above road, comprising site clearing, drainage, earthworks, kerbing, carriageway base, and other ancillary works. Documents from the County Surveyor, County Hall, Beverley. Deposit £2, cheques payable to C.C. Tenders by Oct. 16.

**Eccles, Lancs.**—Surfacing carriageways for B.C. Tenders by Oct. 16.

**Enfield, Middx.**—Resurfacing of Manor Farm estate for B.C. Deposit £2. Tenders by Oct. 17.

**Failsforth, Lancs.**—Resurfacing of the playground area at Higher Park, Joseph Street, for U.D.C. The work consists of breaking up and resurfacing approximately 3,000 sq. yd. of macadam surfacing, also the laying of 200 lin. yd. 7in. by 2in. precast concrete kerbs. Documents from the office of the Engineer and Surveyor, Town Hall, Oldham Road, Failsforth, near Manchester. Deposit £1 1s. Tenders by Oct. 7.

**Felixstowe, Suffolk.**—Making-up of five private streets for U.D.C. Deposit £2 2s. Tenders by Oct. 6.

**Hampshire.**—Realignment and reconstruction of trunk road A.303—Sun Inn-Bell P.H., Weyhill, for C.C. Applications by Oct. 5.

**Havant and Waterloo, Hants.**—Making-up of Scratchface Lane for U.D.C. Tenders by Nov. 6.

**Hereford.**—Redhill Hostel—road widening and car parks, for City Council, comprising approximately 1,500 sq. yd. of pitched and tarmacadamed road widening and car park works, including all incidental works. Documents from the office of the City Surveyor, Town Hall, Hereford. Deposit £2 2s. Tenders by October 9.

**Hitchin, Herts.**—Construction of footpaths, verges, etc., Westmill estate, Phase 4, for U.D.C., including the provision and laying of approximately 2,750 sq. yd. precast concrete paving, 120 sq. yd. of cobbled area and 18,000 sq. yd. of seeded verge and back garden areas, together with ancillary works, and reinforced



concrete lay-bys. Applications to the Surveyor, Council Offices, Brand Street, Hitchin. Deposit £3 3s. Tenders by October 9.

**Hornchurch, Essex.**—Repairs to accommodation bridge for U.D.C. Deposit £2 2s. Tenders by Oct. 13.

**Huntingdon.**—Construction of approximately 50 lin. yd. of roadworks at The Cross, Woodwalton, for R.D.C. Documents from the Council's Surveyor at Montagu House, Huntingdon. Tenders by October 5.

**Leicester.**—Miscellaneous roadworks for City Council. Deposit £1 1s. Tenders by Oct. 20.

**Leicester.**—New road, Blackbird Road to Abbey Gate, for City Council, including the following: Approximately 3,700 sq. yd. lean mix concrete with dense bituminous surfacing; approximately 1,550 sq. yd. flagged footway; approximately 180 lin. yd. 36in. diameter surface water sewers; approximately 400 lin. yd. 9in. diameter foul water sewers. Together with other incidental works. Documents from John L. Beckett, city surveyor, Town Hall, Leicester. Deposit £1 1s. Tenders by Oct. 16.

**Leighton Buzzard, Beds.**—Contract 1, reconstruction of Heath Road (A.418), and contract 2, laying of surface water sewer, Billingdon Road (B.486) for U.D.C. Deposit £2 2s. Tenders by Oct. 11.

**Leyland, Lancs.**—Labour and haulage only for the reconstruction of footpath involving about 1,000 lin. yd. of kerbing, channelling and flagged footpath, for U.D.C. Documents from the Surveyor, Council Offices, Leyland. Tenders by October 4.

**Londonderry.**—Following for C.C.: (1) Reconstruction of approximately 1½ miles of route A.54, Coleraine to Killea, at Ballylagan, the work involves the supply of 31,000 cu. yd. of filling material and 29,000 cu. yd. of excavation; (2) reconstruction of approximately 600 lin. yd. of route A.2, Londonderry to Buncrana at Ballymagorrt, the work involves the removal of the disused railway bridge, approximately 23,000 cu. yd. of excavation and the supply of 17,000 cu. yd. of filling material. Documents from H. K. Scott, county surveyor, Courthouse, Coleraine. Deposit £5 each scheme. Tenders by October 5.

**Middleton, Lancs.**—Footpath reconstruction work for B.C. Tenders by Oct. 11.

**Muckamore, Antrim.**—Execution at Muckamore Abbey, of minor works comprising the resurfacing of two farmyards and a driveway, and alterations to the entrance to the latter. Plan seen at the office of the Superintendent Engineer at Muckamore Abbey, and documents from the Secretary, Eastern Special Care Management Committee, Muckamore Abbey. Tenders by Oct. 11.

**Newcastle-under-Lyme, Staffs.**—Making-up Derwent Place and Thomas Avenue, Cross Heath, for B.C. Tenders by Oct. 4.

**Newtownabbey, Antrim.**—Private street works at Farmley Road, Glengormley, for U.D.C. Documents from the Town Surveyor, Town Hall, Newtownabbey, Co. Antrim. Deposit £2 2s. Tenders by Oct. 9.

**Otley, Yorks.**—Reconstruction in tarmac and asphalt of the existing footpaths within the curtilage of 47 houses on the Council's various housing estates, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, North Parade, Otley. Deposit £1 1s. cheques payable to Otley U.D.C. and crossed. Tenders by Oct. 5.

**Romford, Essex.**—Improvement to junction Balgores Lane with Carlton Road for B.C. Deposit £2 2s. Tenders by Oct. 23.

**Romford, Essex.**—Resurfacing of Havering Road from Mashiters Hill to Pettits Lane North, for a length of 450yd., for B.C., comprising the re-laying of approximately 850 lin. yd. of concrete kerbs, laying 400 tons of bituminous concrete base course and 160 tons of dense bitumen macadam wearing course, re-laying of 1,200 sq. yd. of slab paving, together with various ancillary works. Documents from Borough Engineer and Surveyor, Town Hall, Romford. Deposit £2 2s. cheque. Tenders by Oct. 10.

**Sale, Ches.**—Making-up of the following streets for B.C.: Albert Road, Brogden Grove, Brogden Terrace, Havfield Street, Moorland Avenue. Deposit of £5 5s. for all five streets, or £1 1s. for any individual street. Documents from the Borough Engineer's Office, Town Hall, Sale. Tenders by Oct. 16.

**Southall, Middx.**—Contract 988, reconstruction of Dormers Wells Lane from Uxbridge Road junction to 39 Dormers Wells Lane, for B.C., including the clearing of trees, constructing approximately 1,540 sq. yd. of 6in. reinforced concrete slab, laying approximately 475 tons of base course and 3,700 sq. yd. of 1in. hot rolled asphalt wearing course, reconstructing existing footpaths and ancillary works. Documents from the Borough Surveyor, Town Hall, Southall. Deposit £2. Tenders by Oct. 12.

**Stoke-on-Trent, Staffs.**—Housing redevelopment street works, Burslem, for City Council. (a) Port Vale Street and Reid Street area; (b) Sant Street and Globe Street area, including 1,500 sq. yd. of new carriageway surfacing and foundation, 1,100 sq. yd. of new footway, together with sewers and other incidental works. Applications to the City Engineer and Surveyor, Town Hall, Stoke-on-Trent. Deposit £2. Tenders by Oct. 14.

**Sunderland, Dur.**—Alterations and repairs at Moorlands, Ryhope Road, for B.C. Documents from Borough Architect, Grange House, Stockton Road, Sunderland. Tenders by Oct. 5.

**Sutton Coldfield, War.**—Road and sewer works (a) and (b) for B.C. Deposit £2 each. Tenders by Oct. 16.

**Thurrock, Essex.**—Maintenance works on highways 1961/62 for U.D.C. Deposit £2 2s. Tenders by Oct. 10.

**Wellingborough, Northants.**—Construction of a pedestrian ramped entrance to Eastfield Park, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Swanspool, Wellingborough. Tenders by October 11.

**West Riding.**—Supply and erection of a steel footbridge and handrails complete on prepared abutments at Warmworth, near Doncaster, for C.C. Applications to the County Engineer and Surveyor, County Hall, Wakefield. Tenders by Oct. 4.

**West Riding.**—Supply of 48 lin. yd. of mild steel fencing panels and 14 tons of universal beams, joists, etc., to be delivered to Rastrick Bridge, Brighouse, for C.C. Applications to the County Engineer and Surveyor, County Hall, Wakefield. Tenders by Oct. 4.

**West Sussex.**—Bridge widening and roadworks at Loxwood for C.C. Deposit £2 2s.

**Willesden, Middx.**—Resurfacing works for B.C. Deposit £2 2s. Tenders by Oct. 30.

**Wilmslow, Ches.**—Making-up of Spath Lane for U.D.C., comprising approximately 470 lin. yd. of kerbing and channelling, 2,100 super. yd. of carriageway construction, footway drainage and appurtenant works. Documents from the office of the Engineer and Surveyor, Council Offices, Green Hall, Wilmslow. Deposit £2 2s. Tenders by Oct. 20.

**Winslow, Bucks.**—Roads and sewers, Newton Longville, for R.D.C. Deposit £2 2s. Tenders by Oct. 26.

**Worcestershire.**—Construction of Gannon Road pedestrian subway for C.C. Tenders by Oct. 23.

**York.**—Roadworks at Naburn Hospital for York A and Tadcaster Hospital Management Committee. Apply by Oct. 12. Deposit £2 2s. Tenders by Nov. 3.

#### SEWERAGE, SEWAGE AND REFUSE DISPOSAL

**Aberaeron, Cards.**—Highmead Terrace (Llanybyther) sewerage scheme, for R.D.C., including approximately 1,000yd. of 6in. diameter concrete tube and asbestos cement sewers and 150yd. of 4in. diameter spun-iron rising main with concrete ejector chamber and pumping plant complete with other incidental works. Documents from S. G. D. Evans, clerk to the council, Council Offices, 1 North Road, Aberaeron, or from J. Owen Parry and Lewis, Arcade Chambers, Ammanford. Deposit £5 5s. Tenders by October 20.

**Amersham, Bucks.**—Extension of existing sewer at London Road, Chalfont St. Giles, Wychwood, for R.D.C. Applications by Oct. 6. Deposit £2.

**Basildon, Essex.**—Tye Common sewerage scheme, Billericay, for U.D.C. Apply by Oct. 6.

**Chichester, Sussex.**—Mill Lane pumping station for City Council. Deposit £2 2s. Tenders by Nov. 17.

**Haverfordwest, Pems.**—Town drainage, contract 1, for B.C., comprising construction of approximately 900yd. of surface water sewers of sizes ranging from 9in. to 42in. diameter in three separate locations in the Borough. Documents from John Taylor and Sons, consulting engineers, Artillery House, Artillery Row, Westminster, S.W.1. Deposit £2, cheque payable to Council. Tenders by Oct. 13.

**Howden, Yorks.**—Newport and Gilberdyke sewerage scheme, contract 1, for R.D.C., including the construction of approximately 7,850yd. of 6in., 2,115yd. of 9in. concrete pipe sewers and 450yd. of 12in. spun-iron and concrete pipe sewers, together with manholes; 1,500yd. of 4in., 685yd. of 5in., 45yd. of 7in. and 4,100yd. of 8in. asbestos cement rising main, together with six sewage pumping stations for the villages of Newport and Gilberdyke and sewage treatment works to be constructed on the Beverley and Howden joint trunk sewer in the East Riding of Yorkshire. Documents from John H. Haiste and Partners, consulting engineers, Belmont

House, 20 Wood Lane, Headingley, Leeds, 6. Deposit £3 3s. Tenders by October 27.

**Huddersfield, Yorks.**—Moor Lane relief sewer for B.C. Deposit £2 2s. Tenders by Oct. 16.

**Lisburn, Antrim.**—Sewerage extension schemes at (1) Opposite Seymour Hill, Dunmurry; (2) Derryagh; (3) Ballymacash; (4) Sicily Park, Finaghy, for R.D.C. The contract consists of the following works: The construction of 6in. diameter sewers at (1), (2) and (3) above in either glazed earthenware or pitch fibre pipe, to an aggregate total of approximately 300 lin. yd., together with seven pre-cast concrete and brick manholes, and 14 lin. yd. of 12in. diameter sewer in earthenware pipe at (4) above. Documents from John M. Shirley, clerk of council, Council Offices, Harmony Hill, Lisburn. Deposit £1. Tenders by October 17.

**Maidstone, Kent.**—Following buildings at the inlet treatment works at Allington and the main sewage treatment works at Aylesford, WM18 contract W2, for B.C.: Screen house and grit pumping station; administration building at boiler house; recirculation pumping station; sludge pumping station; staff cottages (one pair). Documents from the offices of Howard Humphreys and Sons, consulting engineers, West Street, Epsom, Surrey, until Oct. 6. Deposit £5 5s. Tenders by Oct. 30.

**Morecambe and Heysham, Lancs.**—Laying of approximately 480 lin. yd. of 18in. diameter concrete sewer, Morecambe Road to Lancaster Road, for B.C. Documents from the office of the Borough Engineer and Surveyor, Council Offices, Morecambe and Heysham. Deposit £2. Tenders by Oct. 6.

**Newbiggin-by-the-Sea, Northumb.**—Drainage works for the laying of the following approximate lengths of pipes and the construction of brick and concrete manholes and ancillary works on the Moor housing estate, for U.D.C.: 15in. diameter R.C. pipes—74 lin. yd.; 12in. diameter R.C. pipes—30 lin. yd.; 9in. diameter R.C. pipes—650 lin. yd.; 6in. diameter R.C. pipes—2,300 lin. yd.; 4in. diameter R.C. pipes—130 lin. yd.; 84 manholes. Documents from Eric G. Lediard, civil engineer, 4 Eldon Square, Newcastle upon Tyne, 1. Deposit £5 5s., cheque payable to the Newbiggin-by-the-Sea U.D.C. Tenders by Oct. 30.

**Newcastle-under-Lyme, Staffs.**—Ashley sewerage and sewage disposal, contract 2, for R.D.C. Deposit £5 5s. Tenders by Nov. 3.

**Pembroke.**—Proposed surface water and foul sewers to serve new factory site at Ferry Lane, Pembroke Dock, for B.C., including the construction of 445 lin. yd. of 30in. diameter and 330 lin. yd. of 18in. diameter Stanton centrifugally spun concrete class B pressure pipe sewers, complete with Stanton-Cornelius flexible joints, and 328 lin. yd. of 9in. diameter glazed stoneware pipe sewer, together with manholes, and all other appurtenant works. Documents from W. B. Kavanagh, borough engineer and surveyor, Municipal Offices, Pembroke Dock. Deposit £5 5s. Tenders by Oct. 9.

**Pontefract, Yorks.**—Monkhill re-sewering for B.C. Deposit £2 2s. Tenders by Oct. 23.

**Stoke-on-Trent, Staffs.**—Supply and erection of two M.S. troughs from 5½in. plate each 1ft. 9in. by 1ft. 10in. by approximately 200ft. long at the Hanley works, for City Council. Documents from the City Sewage Engineer, Leek Road, Stoke-on-Trent. Tenders by Oct. 10.

**Stokesley, Yorks.**—Great Broughton and Kirkby sewerage scheme for R.D.C. Deposit £5 5s. Tenders by Oct. 26.

**Totnes, Devon.**—Construction of about 225yd. of 6in. diameter stoneware sewer, together with manholes, at Harborton Ford, for R.D.C. Documents from Engineer and Surveyor, Council Offices, Plymouth Road, Totnes. Deposit £2 2s. Tenders by October 19.

**Wem, Salop.**—Laying of 80yd. of 9in. S.G.W. open-jointed pipe at ditch at rear of The Glebelands housing estate, Shawbury, and incidental works, for R.D.C. Documents from C. H. Jeffery, surveyor, Council Offices, Wem. Tenders by Oct. 10.

#### STREET LIGHTING

**Aberdare, Glam.**—Supply and installation of 13 columns with lanterns at the new housing estate at Maesgwyn, Cwmdare, for U.D.C. Documents from the Engineer and Surveyor, Vestry Hall, Aberdare. Deposit £2 2s. Tenders by Oct. 20.

**Batley, Yorks.**—Supply of tungsten lamps and discharge lamps, for B.C. Documents from the Borough Engineer, Hanover Street, Batley. Tenders by October 4.

**Bridgwater, Som.**—Street lighting, 1961-62, for B.C. Deposit £2 2s. Tenders by Oct. 9.

**Cardiff.**—Street lighting, contract 9, for City Council. Deposit £2 2s. Tenders by Oct. 13.

**Dunbarton.**—Supply of the following fluorescent lanterns for street lighting in Cumbernauld New Town, for C.C. Quotations should be for lanterns, complete with all necessary gear and tubes, delivered to Cumbernauld: 30 lanterns with 3 x 80 watt 5ft. tubes, suitable for mounting on 25ft. M.H. steel columns, class A lighting; 134 lanterns with 2 x 40 watt 2ft. tubes, suitable for mounting on 15ft. M.H. steel columns, class B lighting; 229 lanterns with 2 x 40 watt or 4 x 15 watt tubes, suitable for post top mounting on 10ft. 6in. M.H. steel columns, footpath lighting; 279 lanterns with 2 x 40 watt 2ft. tubes, suitable for wall mounting, class B or footpath lighting; 136 lanterns bulkhead with 2 x 8 watt or 2 x 13 watt tubes, suitable for wall mounting, footpath lighting. The Council do not bind themselves to accept the lowest or any tender. Offers for the whole or any part of the equipment, with specification details and time of delivery, to be submitted in sealed envelopes addressed to the District Clerk, District Council Office, Main Street, Cumbernauld, marked "Tender for Fluorescent Lanterns," by October 6.

### INTERNATIONAL CONTRACT

**Madras, India.**—The Ministry of Railways, Park Town, Madras, India, invites tenders for: Enquiry W.477/53, strengthening of 12 300ft.-span steel trusses of railway bridge across Krishna River near Vijayawada Station by prestressing and conventional methods. Specifications, etc., from the Co-ordination Branch, India Store Department, Government Building, Bromyard Avenue, Acton, W.3, at a cost of £2 5s. per set not refundable. Tenders are to be returned direct to the General Manager, Southern Railways, Park Town, Madras, 3, India, by November 14. The approximate cost of the work is £3,000,000 and the amount of earnest money payable along with the quotation is £1,500. Only the manufacturers (including their constituents or Associates authorised to commit them) or their accredited agents who are in a position to supply the requirements from their own or their principal's manufacturers are invited to quote. Specimen copy of the enquiry can be seen at the Engineering Branch, India Store Department, Acton, W.3.

### AWARDS

#### BUILDING AND DECORATING

(See also Housing Schemes)

**Biggleswade, Beds.**—Erection of 25 garages at Stotford and six at Langford, for R.D.C.—Marley Concrete, Ltd., Peasmarsh, Guildford, £4,401 and £1,239, respectively (subject to Ministry approval).

**Birmingham.**—Construction of a 10-storey dental hospital at St. Mary's Row for the United Birmingham Hospitals—C. Bryant and Son, Ltd., 65 Whitmore Road, Birmingham, 10, £1,200,000. Work recently commenced.

Erection of an office block for Yarwood Ingram and Co., Kingsbury Road—C. Bryant and Son, Ltd., £150,000. Work recently commenced.

Office and warehouse block (four-storey) for Joseph Gillman and Son, Ltd., Loveday Street—C. Bryant and Son, Ltd., £100,000. Work recently commenced.

**Brighton, Sussex.**—Following for B.C.: Supply and erection of 15 lock-up garages in two blocks at the rear of Langhurst flats, Eastern Road—Bell and Webster, Ltd., Essex Road, Hoddesdon, Herts., £1,260 (recommended).

Conversion of gymnasium to provide additional science accommodation at Brighton, Hove and Sussex Grammar School—McKellar and Westerman, Ltd., 143 Church Street, Hove, £21,930 (recommended, subject to M.E. approval); Elliott Bros. (Brighton), Ltd., £24,998; Gates and Sons, Ltd., £24,780; Field and Cox, Ltd., £23,149; J. W. Ridge, Ltd., £22,900; William Willett (Builders and Decorators), Ltd., £22,612; George Comber and Co., £22,441.

Erection of storage platforms and an office at stands 28-29 and 59-60 at the municipal market—A. J. Construction, Ltd., 9 Marlborough Place, Brighton, 1, £1,290 (accepted); Messrs. Elliott Bros., £1,327; J. W. Ridge, Ltd., £1,342.

Erection of the first instalment of a primary school at Saltdean—George Comber Co., Ltd., 13 Carlton Terrace, Portlisle, £45,285 (accepted); T. J. Braydon and Son, Ltd., £49,772; Rice and Son, Ltd., £49,790; I. G. Robinson and Sons, Ltd., £49,861; Saunders (Contractors), Ltd., £50,223; A. J.

Construction Co., Ltd., £51,951; Drury Construction (Southern), Ltd., £53,375; J. W. Ridge, Ltd., £54,228; Field and Cox, Ltd., £55,310; McKellar and Westerman, Ltd., £56,147; Y. J. Lovell and Sons, Ltd., £56,825.

**Cambridge.**—Provision of a prefabricated timber extension at the Child Guidance Clinic, Chesterton Hall, for the East Anglian Regional Hospital Board—Vic Hallam, Ltd., Nottingham, £1,541.

**Cardiff.**—Extension of factory at Pendyris Street, for Avana Associated Bakeries, Ltd.—Hinkins and Frewin, Ltd., High Cross, Rogerstone, near Newport, K. Luther Davies and W. E. Hole, architects, Plymouth Chambers, Westgate Street, Cardiff, and L. C. Patterson, W. T. Seaton and Co., quantity surveyors, 11 Cathedral Road, Cardiff.

**Cranbourne, Dorset.**—Supply and fixing of Weatherall Nuraphalte roofing at Cranbourne Secondary School—Weatherall Roofing Co., Ltd., Whitehall Place, Gravesend, Kent.

**Cromer, Norfolk.**—Rebuilding of women's ward annexe at Cromer and District Hospital for the East Anglian Regional Hospital Board—G. W. Gooch and Sons, 12 Kimberley Street, Norwich, £9,350 (recommended).

**Croydon, Surrey.**—Erection of offices at 11 and 15 Dingwall Avenue—Walter Lawrence and Son, Ltd., Sun Street, Finsbury Square, London, E.C.2. Estimated cost £90,000. W. H. Robbins, 77 Wigmore Street, London, W.1, is the architect. Taylor and Smith, 3 New Square, Lincoln's Inn, London, W.C.2, are the quantity surveyors, and T. C. Durley, Hill and Partners, Abbey House, Victoria Street, London, S.W.1, are the consulting engineers for the scheme.

**Exeter.**—Erection of 20 garages at Durling Road for City Council—S. P. Clements, Ltd., Sivell Place, Heavitree, Exeter, £3,622 (recommended).

**Farmworth, Lancs.**—Modernisation at the public baths for B.C.—Hill and Jones (Bolton and Manchester), Ltd., Jethro Street, Bolton, £6,824.

**Glossop, Derbys.**—Improvements to 48 houses at Sheffield Road, Simmondley Lane and Newshaw Lane, for B.C.—E. Jones, 39-47 Foundry Street, Dukinfield, Ches., £10,178.

**Gosforth (Northumb).**—Erection of proposed Gosforth East R.C. Primary School—Pascal J. Stienlet and Son, architects, 4 Queen Square, Newcastle upon Tyne—R. Bowey and Son, Ltd., William Street South, Gosforth.

**Gosport, Hants.**—Provision of a temporary shop in High Street for B.C.—Vic Hallam, Ltd., Langley Mill, Nottingham, £879 (recommended).

**Great Yarmouth, Norfolk.**—Construction of a medical unit at Northgate Hospital for the East Anglian Regional Hospital Board—H. A. Holmes and Sons, Ltd., South Ice House Hill, Gorleston, Great Yarmouth, £100,262 (recommended).

**Greenford, Middx.**—Re-roofing with Nuraphalte at Gifford Primary School, Northolt, for C.C.—The Weatherall Roofing Co., Ltd., Gravesend, Kent.

**Jarrow, Dur.**—Factory extensions for Reavley's Mineral Water Co.—David Glen, Ltd., Albert Road, Jarrow, Co. Durham.

**Kettering, Northants.**—Construction of a cattle market at Northfield Avenue for B.C.—Bradshaw Bros. (Contractors), Ltd., Loughborough Road, Leicester (recommended).

**Leeds.**—Construction of a dining hostel, gymnasium and alterations to the teaching block at the City of Leeds Training College, Becketts Park—F. Shepherd and Son, Ltd., York, estimated cost £700,000. Buildings have been designed by G. Alan Burnett, 8 Blenheim Terrace, Leeds, in collaboration with J. R. Sheridan-Shedden, the city architect. Work starts this month, and is due for completion in July 1963.

**Leicester.**—Erection of a two-storey factory with offices fronting Pringle Street and New Henry Street, for the City Embroidery Co., Ltd.—Cawrey, Ltd., Gorse Hill, Anstey, Leicester. Estimated cost £16,000. Gordon White and Hood and Associates, architects, 77 King Street, and A. Selby, quantity surveyor, 53 Gwendolin Avenue, Birstall.

**Little Thurrock, Essex.**—Supply and fixing of Weatherall Nuraphalte roofing at Grays Palmers Endowed School for Girls for C.C.—Weatherall Roofing Co., Ltd., Whitehall Place, Gravesend, Kent.

**London.**—Following for City Corporation: Various improvements to property at 51/52 South Molton Street, W.1—P. Eustace and Son, Ltd., 23 Monument Street, London, E.C.3, £4,821 (recommended); William Willett, Ltd., £6,858; R. G. Jones, Ltd., £6,084; George Smith of Avery Row, Ltd., £5,709; Bristow and Darlington, Ltd., £5,350.

Painting 85 lamp columns—Abacus Municipal, Ltd., Sutton-in-Ashfield, Notts., £696 (recommended); Anderson and Brown Bishopsgate, Ltd., £949; W. G. Beaumont and Son, Ltd., £890; Heeps Willard and Co., Ltd., £886.

**Londonderry.**—Erection of an old people's home at Moneymore for County Welfare Committee—Hugh Taggart, Ltd., Ballymoney, £97,787. Work is expected to start in January.

**Middlesbrough, Yorks.**—Erection of E.N.T. out-patient department at North Riding Infirmary, for Newcastle Regional Hospital Board—G. H. Rogers, North Road, Middlesbrough, £17,195. P. H. Knighton, architect to the board, and Thomas Barrett, Sons and Partners, 84 Grange Road, Middlesbrough, are the quantity surveyors.

**Newcastle upon Tyne.**—Conversion of the Scala Cinema, Chillingham Road, into shops and premises at corner of Emily Street and Welbeck Road into shops for Ceres Investments, Ltd., S. John Hill and Partners, architects, 2 Whitfield Street, Gloucester—Brixabur Builders, Ltd., 21 Clarence Street, Gloucester.

**Newcastle upon Tyne.**—Following for City Council: Painting at Slatyford Lane Transport Depot—Good Bros., 2 Benton Terrace, Newcastle, £4,822; additional classrooms at Middle Street, Girls Secondary Commercial School—Graham and Son, Ltd., Haslam House, Westcraef Road, Newcastle, 12, £5,659 (recommended).

**Newmarket, Suffolk.**—Adaptation of Oakfield Club as a nurses' home for the General Hospital for the East Anglian Regional Hospital Board—W. P. King and £1,469 (recommended).

**Nuneaton, War.**—Extensions to 41 and 45 Bradestone Road for B.C.—A. J. Ward, Nuneaton, £2,851.

**Portsmouth.**—Erection of a tennis and netball pavilion at Bransbury Park, for the Parks and Open Spaces Committee—Direct Labour, £5,194.

**Rotherham, Yorks.**—Erection of a multiple store and shop in High Street for The Hammerson Group of Companies—H. Fairweather and Co., Ltd., Hyde Works, St. James's Lane, London, N.10, £275,000. T. and P. H. Braddock, 14 Great Smith Street, London, S.W.1, are the architects, G. D. Walford and Partners, 7 St. James's Street, London, S.W.1, the quantity surveyors and J. H. Coombs and Partners, 22 Little Portland Street, London, W.1, structural engineers. Work commenced.

**Rothwell, Northants.**—Improvement of 34 pre-war houses for U.D.C.—Dainty Bros. (Rushton), Ltd., £6,835 (provisionally accepted).

**Stoke-on-Trent, Staffs.**—J. Seymour Harris and Partners, 3-4 Greenfield Crescent, Five Ways, Birmingham, 15, are the architects, for the erection of retail shops, supermarket and offices fronting Old Hall, Charles and Gilman Streets, Hanley, for the Shop Developments Group of Companies. Scheme at town planning stage.

**Stowmarket, Suffolk.**—Alterations to kitchen at Stow Lodge Hospital for the East Anglian Regional Hospital Board—G. Kenney and Sons, Ltd., Sproughton Road, Ipswich, £7,349.

**Sunderland, Dur.**—Alterations to Castle View Secondary Modern School, for the E.C.—Hurrell Brothers, Back Peacock Street, Sunderland, £2,769.

Additions to Fulwell fire station, for B.C.—Thomas Stewart, Peacock Street West, Sunderland, £5,229.

Erection of store and garage, Cleveland Road, for the Luxdon Laundry, Ltd.—J. Carter and Son, Ltd., Deptford Terrace, Sunderland.

**Sutton, Surrey.**—Erection of an office building at Sutton Park Road for Turners Asbestos Cement Co., Ltd. Elliott, Cox and Partners, architects, 172 Buckingham Palace Road, London, S.W.1—Rush and Tompkins, Ltd., 109 Station Road, Sidcup, Kent.

**Tiverton Devon.**—Erection of a new lodge at the cemetery for B.C.—C. Keitch and Co., £3,114.

**Twickenham, Middx.**—Erection of a 10-storey block of offices and a public house at Twickenham, for the Yorkshire Insurance Co.—Tersons, Ltd., 4 Dollis Park, London, N.3, £500,000. Work about to commence.

**Tynemouth, Northumb.**—Erection of public-house at the Broadway for Newcastle Breweries, Ltd.—Hastie D. Burton, Ltd., King Street, North Shields. Site works started.

**Walsall, Staffs.**—Erection of following, for B.C.: Police garage at Bloxwich Police Station—Perks and McRobie, 31 Castlecroft Lane, Wolverhampton, £2,083.

Mess rooms and public conveniences at Bloxwich Cemetery and public conveniences



at Leamore Playing Fields—C. E. Dudley and Son, Powlett Street, Wolverhampton, £1,925 and £2,500 respectively (recommended).

Drill and hose-drying tower at Bloxwich Fire Station—McGee Bros., Ltd., Nephin Road, Dublin, £3,800 (recommended, subject to Home Office approval).

One hundred and sixteen garages at Mossley estate—Baker Bros. (Builders), Ltd., Kent Street, Upper Gornal, Dudley, Worcs., £18,460 (recommended, subject to Ministry approval).

**Wembley, Middx.**—Erection of a 15-storey building (York House) between the Empire Pool and Wembley Stadium, for Centrovincial Estates in association with Yorkshire Insurance Co. Bernard Gold and Partners, architects, 4 Saville Row, London, W.1—Bernard Sunley and Sons, 25 Berkeley Square, London, W.1, £500,000. Work commenced.

**Wisbech, I. of E.**—Following for the East Anglian Regional Hospital Board: Construction of medical ward unit and alterations to X-ray department at North Cambridgeshire Hospital—H. J. Firman, Ltd., Flag Fen, Newark Road, Peterborough, £83,528; extension to boiler-house at Clarkson Hospital—R. Wallace, The Chase, Leverington Road, Wisbech, £1,495 (recommended).

#### DEMOLITION

**Caterham and Warlingham, Surrey.**—Demolition and site clearing of the following properties for U.D.C.: (a) 83-89 Godstone Road, Caterham; (b) 34-54 Farningham Road, Caterham; (c) 73-83 Coulsdon Road, Caterham—Pickford Demolitions, Tongham, £35 (accepted); G. A. Mead, £160; North West Demolitions, £211; Syd Bishop and Sons (Demolition), Ltd., £518; Eastmore Demolition and Supply £800; Croucher (Plant), Ltd., £1,459; Sir Robert McAlpine and Sons, Ltd., £1,560.

**Gosport, Hants.**—Demolition of 11-16 Chapel Row, Trinity Green, and 1-21 (inclusive) St. John's Square for B.C.—Treloar and Sons (Contractors), Ltd., 68 Brockhurst Road, Gosport, to pay Council £101 and £168, respectively.

**Ormskirk, Lancs.**—Demolition of the King's Arms Hotel in Moor Street—Crushed Brick and Stone Co., 211 Great Howard Street, Liverpool, 5. Work just commenced.

**Tyldesley, Lancs.**—Demolition of public swimming baths in Union Street, for U.D.C.—North West Demolition Co., 161 Gigg Lane, Bury, Lancs.

#### ELECTRICAL

**Bathgate, W. Lothian.**—Supply and installation of switchgear, etc., for the distribution of power at British Motor Corporation's factory for Industrial Estates Management Corporation for Scotland—Crompton Parkinson, Ltd., Crompton House, Aldwych, London, W.C.2. Estimated cost over £100,000.

**C.E.G.B.**—The Central Electricity Generating Board have placed contracts during the past two months for power stations, transmission lines and transforming stations amounting in the aggregate to approximately £23,000,000. The principal contracts include:

Blyth B power station: heating, lighting and plug point installation for turbine-house, boiler-house and ancillary buildings F. H. Wheeler and Co., Ltd.; high pressure pipework and valves for turbo-generators 7 and 8 and boilers 7 and 8—John Thompson (Pipework), Ltd.; foundations for building, switchgear conductor structures, fencing and drainage at 275-kV switchgear compound—Sir Robert McAlpine and Sons (North Eastern), Ltd.

Thorpe Marsh power station: three 4,800,000 g.p.h. natural draught cooling towers, 2a, 2b and 2c—Davenport Engineering Co., Ltd.; 11-kV switchgear and accessories—A. Reyrolle and Co., Ltd.; two 310-MVA, 275-kV generator transformers 2a and 2b—Associated Electrical Industries, Ltd.; 3.3-kV switchgear and accessories—The English Electric Co., Ltd.; fixed fire fighting equipment—Matthew, Hall and Co., Ltd.

West Burton power station: coal-handling plant—Birtley Engineering, Ltd.—main c.w. pumps and motors associated with 1, 2, 3 and 4 500-MW turbo-generators—Gwynnes Pumps, Ltd.; installation and maintenance of site electricity supply system (stage I)—James Scott (Electrical Engineers), Ltd.

Drakelow C power station: 11-kV auxiliary switchgear units 9 and 10—A. Reyrolle and Co., Ltd.; civil works for coal, ash and dust plant—J. L. Kier and Co., Ltd.; two 350-MW reheat boilers 9 and 10

—John Thompson Water Tube Boilers, Ltd.; contactor control gear (stage II)—Laurence, Scott and Electromotors, Ltd.

Aberthaw power station: 13.8-kV and lower voltage cables and accessories—London Electricity Board.

Dungeness power station: 275-kV switch-house (civil works)—Sir Robert McAlpine and Sons, Ltd.; 275-kV air-blast switch—A. Reyrolle and Co., Ltd.

Richborough power station: power, control and auxiliary cables—London Electricity Board.

Tilbury B power station: pile casting and driving—Holloway Bros. (London), Ltd. West Thurrock power station: installation of lighting, heating, telephones and ancillary services associated with sets 1-4—James Kilpatrick and Son, Ltd.; 275-kV switchgear extension—A. Reyrolle and Co., Ltd.

Marchwood Central Engineering Laboratories: construction, completion and maintenance for the maintenance period Taylor Woodrow Construction, Ltd.; D.C. research equipment—The English Electric Co., Ltd.

Kearsley sub-station: 132-kV switchgear—English Electric Co., Ltd.

Radstock sub-station: two 45-MVA, 132/33-kV transformers—Ferranti, Ltd.

Ealing sub-station: 66-kV, 22-kV and multicore cables—British Insulated Cables, Ltd.

Denham sub-station: two 45-MVA, 132/22-kV transformers—Hackbridge and Hewitt Electric Co., Ltd.

Reading sub-station: 132-kV switchgear protection and connections—A. Reyrolle and Co., Ltd.

Eltham sub-station: two 45-MVA, 132/33-kV transformers—Brush Electrical Engineering Co., Ltd.

Wandsworth sub-station: two 30-MVA, 132/11-kV transformers, and two 90-MVA, 132/66-kV transformers—Ferranti, Ltd.

Wimbledon sub-station: 132-kV switchgear—Associated Electrical Industries, Ltd.

Pembury-Marden: overhead line works—Pirelli-General Works, Ltd.

Chesterfield sub-station: 275-kV switchgear—The General Electric Co., Ltd.

Gloucester sub-station: 275-kV switchgear—Associated Electrical Industries, Ltd.



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Penwortham sub-station: 275/132-kV switchgear—Associated Electrical Industries, Ltd.

Dame Caroline Haslett cable-laying ship: modifications—Associated Electrical Industries, Ltd.

Grove Road sub-station: three 45-MVA transformers—Bonar, Long and Co., Ltd.; 132-kV switchgear—A. Reyrolle and Co., Ltd.

Elland power station: four 180-MVA transformers—C. A. Parsons and Co., Ltd. Uskmouth power station: 400/275-kV overhead line—Associated Electrical Industries, Ltd.

Trawsfynydd-Ffestiniog: pilot cables—London Electricity Board.

Elland sub-station: 400/275-kV and 132-kV overhead lines—J. L. Eve Construction Co., Ltd.

Waltham Cross sub-station: 275-kV switchgear—The English Electric Co., Ltd. Tilbury sub-station: 132-kV cables—Enfield-Standard Power Cables, Ltd.

Fleet sub-station: two 60-MVA synchronous condensers—The General Electric Co., Ltd.

Great Yarmouth, Norfolk.—Electrical services and installation of lift for medical unit at Northgate Hospital for the East Anglian Regional Hospital Board—Eastern Electricity Board, £9,210, and Evans Lifts, Ltd., Leicester, £3,165, respectively (recommended).

London.—Erection of phase I of an electrical sub-station in reinforced concrete construction at the corner of Beech Street and Beech Lane, E.C.1, as part of the Barbican redevelopment scheme for City Corporation. Chamberlain, Powell and Bon, architects, Avenue Studios, Sydney Mews, London, S.W.3—Holloway Bros. (London), Ltd., 157 Millbank, London, S.W.1, £97,538 (accepted); Y. J. Lovell (London), Ltd., £101,890; J. Jarvis and Sons, Ltd., £99,500 Sir Robert McAlpine and Sons, Ltd., £98,517; The Demolition and Construction Co., Ltd., £98,153.

Nuneaton, War.—Erection of traffic signals at Long Shoot/Watling Street junction for B.C.—Automatic Telephone and Electric Co., Ltd., 55 Cornwall Street, Birmingham, 3, £1,326 (recommended).

Stowmarket, Suffolk.—Electrical services for kitchen at Stow Lodge Hospital for the East Anglian Regional Hospital Board—Playford and Son, Ltd., Aston House, High Street, Newmarket, £963 (recommended).

Sydenham.—Construction of a switch-house a Sydenham Park for the London Electricity Board—Holloway Bros. (London), Ltd., 157 Millbank, London, S.W.1. Estimated cost £47,000.

Wisbech, I. of E.—Electrical services and installation of P.A.B.X. telephone system for medical ward at North Cambridgeshire Hospital for the East Anglian Regional Hospital Board—Eastern Electrical Co., Ltd., 81 Hills Road, Cambridge, £5,321, and Automatic Telephone and Electric Co., Ltd., London, W.C.2, £3,952, respectively (recommended).

#### GAS AND WATER SUPPLY

Arklow, Wicklow, Eire.—Water supply improvement scheme for U.D.C.—H. V. Flinn, Athlone, £8,179.

Colchester, Essex.—Development of Bowden's Borehole, for Colchester and District Water Board. John B. Francis, engineer to the Board—Le Grand Adseo, Ltd., Southall, Middx., £6,851. Work to commence Oct.

Dorset.—Water mains, Blandford Bridge to Charlton Marshall, for Poole and East Dorset Water Board. Richard S. Rendle, engineer and manager—Cummings and Morrish, Ltd., Bournemouth, £5,310 (work to commence November).

Thurso, Caithness.—Laying and jointing of approximately 400yd. of 6in. diameter, 670yd. of 4in. diameter and 460yd. of 3in. diameter iron water mains and associated work for B.C. Gilbert Thomson and Son, consulting engineers, 164 Bath Street, Glasgow, C.2—J. Baxter and Son (Contractor), Ltd., Contin, Strathpeffer, Ross-shire, £2,907 (accepted); Wm. Tawse, Ltd., £3,298; Alex. Sutherland, Ltd., £3,424. Work is expected to start Oct. 2.

West Dorset.—Water main, Dottery to Bradpole, contract 15, for Water Board—C. P. Unwin and Sons, Ltd., 33, St. Peter Street, Tiverton, Devon, £5,637.

#### HARBOURS, PIERS AND SEA DEFENCE WORKS

Gosport, Hants.—Clearing the foreshores at Stokes Bay and Lee for B.C.—Treloar and Sons (Contractors), Ltd., 68 Brockhurst Road, Gosport, £2,895 (recommended).

#### HEATING AND VENTILATING

Great Yarmouth, Norfolk.—Mechanical engineering services for the medical unit at

Northgate Hospital for the East Anglian Regional Hospital Board—Barrett and Wright, Ltd., 1a St. Miles Alley, Norwich, £28,340 (recommended).

Ipswich, Suffolk.—Provision of central heating in nurses' bedrooms at Norton House, Anglesea Road wing of Ipswich and East Suffolk Hospital for the East Anglian Regional Hospital Board—Barrett and Wright, Ltd., 1a St. Miles Alley, Norwich, £6,688 (recommended).

Peterborough.—Temporary services from boiler-house to out-patient department at Peterborough and District Memorial Hospital for the East Anglian Regional Hospital Board—Mitchell Construction Co., Ltd., Peterborough (recommended). Estimated cost £850.

Stowmarket Suffolk.—Mechanical engineering services for alterations to kitchen at Stow Lodge Hospital for the East Anglian Regional Hospital Board—Barrett and Wright, Ltd., 1a St. Miles Alley, Norwich, £3,426 (recommended).

Wisbech, I. of E.—Following for the East Anglian Regional Hospital Board: Supply of boiler plant and associated engineering services at Clarkson Hospital—A. Dodman and Co., Ltd., Highgate Works, King's Lynn, £7,090; mechanical engineering services for the medical unit at North Cambridgeshire Hospital—J. Wontner-Smith Gray and Co., Ltd., 6 Hills Road, Cambridge, £17,395 (recommended).

#### HOUSING SCHEMES

Biggleswade, Beds.—Erection of following, for R.D.C.: Nine houses with roadworks at Dunton—Eames and Berrington, 10 Wood Lane, Cotton End, Cardington, £18,241; 4 houses at Campton—W. F. Ansell, Ltd., 28 Bury Road, Shillington, £7,102; 20 dwellings and two houses at Stotfold—A. G. Baxter (Stotfold), Ltd., 24 Regent Street, Stotfold, £32,380 and £3,410, respectively (subject to Ministry approval).

Boldon, Dur.—Sixty-eight three-bedroomed houses on Mill Farm housing site, Whitburn, for U.D.C. J. T. Edmondson, surveyor—W. D. and R. Allison and Sons, North Guards, Whitburn, Co. Durham, £93,840 (subject to Ministry approval).

Bootle, Lancs.—Thirty-six dwellings in Litherland Road, for B.C.—Direct Labour, £60,399. Brighton, Sussex.—Following, for B.C.: 22 old people's bungalows at Moulsecoomb

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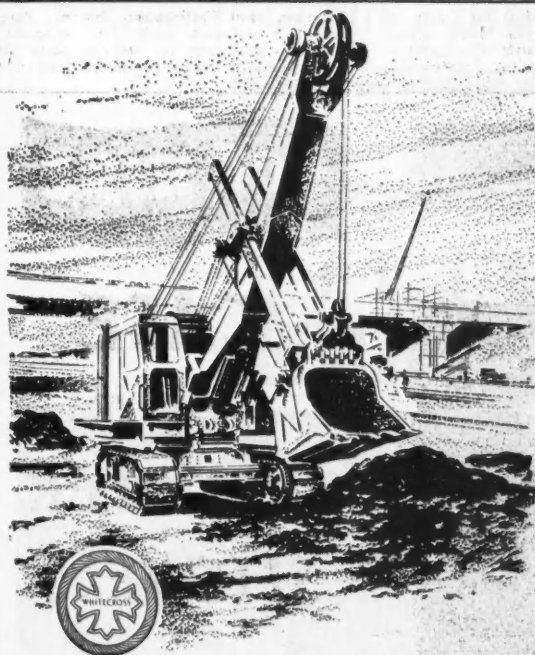
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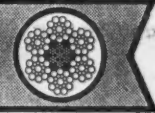
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and Bevedean—Cox (Public Works), Ltd., Newhaven, £41,018 (recommended, subject to Ministry approval); Hassocks Properties Development Co., Ltd., £42,844; A. and F. Pilbeam, Ltd., £42,961; Saunders (Contractors), Ltd., £43,119; Uckfield Building Works, Ltd., £43,707; R. Burnham and Co., Ltd., £44,877; E. Jeffrey and Partners, Ltd., £48,276.

Two pairs of cottages at Housedean Farm and Ridge Road, Falmer—E. Jeffrey and Partners, Ltd., 19 Lower Bevedean Avenue, Brighton, £11,921 (accepted); G. Watts and Co., Ltd., £12,743; A. J. Construction Co., Ltd., £12,906; Edward Cox and Co., Ltd., £12,980; J. W. Ridge, Ltd., £13,016; T. J. Braybon and Son, Ltd., £13,740; Wm. Willett (Builders and Decorators), Ltd., £14,977; Cooks of Crawley, Ltd., £15,325.

**Brownhills, Staffs.**—Seventeen dwellings at Field Lane, High Heath, Pelsall, and three dwellings at Chester Road, Shire Oak, for U.D.C. Charles H. Hunt, engineer and surveyor—Direct Labour, £30,256 and £5,814, respectively (accepted); Edge and Haines, Ltd., £33,608 and £6,254; H. E. Phillips (Contractors), Ltd., £40,784 and £8,028. Work commencing Jan. 1962.

**Chester-le-Street, Dur.**—Ninety-four houses at Barley Mow, for the R.D.C. F. Bowman, housing architect—Direct Labour.

**Crediton, Devon.**—Block of four bungalows and two blocks of two houses, together with site works, at Tything Close, Newton St. Cyres, for R.D.C. E. O. Harding, architect, 49 Prospect Park, Exeter—White and Vincent, Ltd., Crediton, £15,640 (accepted); Dart and Francis, Ltd., £16,067; W. S. Chenneour, £16,135; The Lapford Builders, £16,199; The E.B.C. and Sleeman, Ltd., £16,548; Phillpot and Co. Builders, Ltd., £18,122 (work to commence December).

**Goole, Yorks.**—Eight bungalows at Rawcliffe Bridge for R.D.C.—C. and F. Easton. Goole, £9,177.

**Hampstead.**—Redevelopment as flats of 1-13 Oak Hill Park, Oak Hill Lodge and Oak Hill House—A. T. Chown and Co., Ltd., 21 Chilworth Street, London, W.2. Architects for the scheme are Michael Lyell Associates, 16 Yeomans Row, S.W.3, the quantity surveyors are Reddick and McDonald, 119 Victoria Street, S.W.1, and the consulting engineers are L. L. Kenchington and Partners, 195-197 Great Portland Street, W.1.

**Ilford, Essex.**—Erection of a nine-storey block of 36 flats, with garages and site works, at Redbridge Lane, for Hilbery Chaplin and Co., Ltd. K. W. Bland, chief architect, Wates Architectural Department—Wates, Ltd., 1258/1260 London Road, Norbury, S.W.16, £112,398.

**Keighley, Yorks.**—Sixteen one-bedroom flats at St. John's Road, Utley, for B.C.—H. Johnson and Sons (Farsley), Ltd., New Street, Farsley, Pudsey, £22,661 (recommended, subject to Ministry approval).

**Magherafelt, Londonderry.**—Six dwellings at Draperstown for R.D.C. W. and M. Given, architects, 1 Waterside, Coleraine—Lees and Stewart, Ltd., Queen Street, Magherafelt, £9,503.

**Nuneaton, War.**—Conversion of The Gables, Lutterworth Road, into flats for B.C.—Wood and Meller, Ltd., 17 Golf Drive, Nuneaton, £4,055.

**Portslade-by-Sea, Sussex.**—Eighteen flats and 12 houses at Wickhurst Rise, for U.D.C. W. E. Rudgley, engineer and surveyor—G. Comber and Co., Ltd., Carlton Terrace, Portslade-by-Sea, £50,500 (subject to Ministry approval).

**Portsmouth.**—Three flats at Kingston Road, Buckland, for City Council—Direct Labour, £7,989 (recommended).

**Scunthorpe, Lincs.**—Two hundred and sixteen dwellings and 190 garages, roads and sewers at Westcliffe estate, for B.C.—G. Wimpey and Co., Ltd., Hammersmith Grove, London, W.6, £582,287 (provisionally accepted).

**Smethwick, Staffs.**—Two 20-storey blocks of flats and other buildings for B.C.—C. Bryant and Son, Ltd., 65 Whitmore Road, Birmingham, 10, £600,000. Work recently commenced.

**Truro, Corn.**—Eight flats at Malpas Road estate for City Council—E. Thomas and Co., Ltd., Kings Avenue, Falmouth, £11,579 (accepted); Jones Point, Ltd., £12,134; G. E. Wallis and Son, Ltd., £11,834; W. L. Edwards, £12,774.

**Wigan, Lancs.**—Fourteen houses in the Wrightington Hospital grounds for R.D.C.—J. W. Liptrot and Co., Ltd., Brook Lane, Pemberton, Wigan, £19,514.

**Woolwich.**—Construction of foundations and reinforced concrete frames for three 11-storey blocks of flats in the Glyndon redevelopment area, stage 1, for B.C. Norham and Dawbarn, design consultants, 7 Portland Place, London, W.1—Modular Concrete Co., Ltd., 1258-1260 London Road, London, S.W.16, £118,400.

#### MISCELLANEOUS

**Nuneaton, War.**—Provision of an additional cremator at the Crematorium for B.C.—Dowson and Mason, Ltd., Manchester, (recommended). Estimated cost £3,275.

#### PLAYING FIELDS, PARKS, ETC.

**Godstone, Surrey.**—Reseeding the north of the Mill Lane Playing Fields, Hurst Green, Oxted, for R.D.C.—Worth Contractors, Worth Lodge Farm, Crawley, Sussex.

**Jarrow, Dur.**—Preparation of playing field at Jarrow Grammar Technical School for C.C.—Brunston Contractors (Newcastle), Ltd., Whickham, Co. Durham, £13,938.

#### PLANT AND MECHANICAL TRANSPORT

**Bedford.**—Supply of one Austin 10/12cwt. van with sliding cab doors and one Austin 10/12cwt. pick-up truck for B.C. David Robinson, Ltd., 47 St. Peters Street, Bedford, £513 and £498, respectively (recommended).

**Hornsey, Middx.**—Supply of following for B.C.: One Derby side loader refuse truck—Rootes, Ltd., Devonshire House, Piccadilly, London, W.1, £1,529; one 5-ton truck (diesel) and light diesel tractor—W. Harold Perry, Ltd., 279 Ballard Lane, London, N.12, £1,061 and £539 respectively (recommended).

#### RAILWAY ENGINEERING

**British Railways.**—Following contracts placed: London Midland Region:

Cleaning and painting of Liverpool Exchange Station—Arundel (Contractors), Ltd., Bradford, Yorks.

New signal box at Nuneaton—William D. Randall (Hartshill), Ltd., Hartshill, Nuneaton.

Installation of steam heating in millwrights' shop at Locomotive Works, Crewe—Truswell and Son, Ltd., Newcastle, Staffs.

Repairs to roofs over repair shops at generating station, Stonebridge Park—Kelsey Roofing Industries, Ltd., London, W.1.

Alterations and redecoration at St. Pancras Chambers to form new office accommodation for London (Midland) Divisional Traffic Manager—James Carmichael, Ltd., London, S.W.18.

#### ROADS, BRIDGES AND SITE WORKS

**Basildon, Essex.**—Construction of roads and sewers for second phase of industrial site 2 for Development Corporation—Scott Hale (Contractors), Ltd., 47 Globe Road, Romford, £119,000.

**Birmingham.**—Construction of the inner ring road junction at Horsefair and Holloway Head involving an underpass and major concrete works for City Council—C. Bryant and Son, Ltd., 65 Whitmore Road, Birmingham, 10, £750,000. Work recently commenced.

**Bromley, Kent.**—Construction of two bus bays on Bromley Common, near the junction of Crown Lane, for B.C.—Johnson Bros. (Aylesford), Ltd., Tonbridge, £4,008.

**Caterham and Wallingham, Surrey.**—Burning off and surfacing with 1½ in. thickness of bitumen macadam of approximately 3,600 sq. yd. of carriageway the re-laying of 400



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lin. yd. kerb, and the laying of 1,525 sq. yd. of concrete paving slabs in Godstone Road and Croydon Road, Caterham, for U.D.C.—Allmacadams, Ltd., 332 Brighton Road, S. Croydon, £4,287 (accepted); W. F. Rees, Ltd., £4,393; Mears Bros. (Contractors), Ltd., £4,693; Waywarden, Ltd., £5,018; Surrey Bituminous Supplies, Ltd., £5,148. Work has commenced.

**Croydon, Surrey.**—Surfacing works in connection with the construction of an underpass beneath George Street, including the widening of George Street and the construction of a roundabout at the junction of Berkeley Road and Park Lane, for B.C.—Direct Labour, estimated cost £112,000.

**Gosport, Hants.**—Following for B.C.: Making-up of Bridgeway Avenue (part), Fisgard Road (part) and Camp, Dorrien Fieldmore, Perth and Thornton Roads, and improvement works in Rowner Lane, Wych Lane and Brewer's Lane—P. Trant, Hythe, Southampton, £9,413 and £10,180, respectively (recommended, subject to Ministry approval).

Supply of hot chip carpet—Johnston Bros. (Contractors), Ltd., Johnston House, Hatchlands Road, Redhill, Surrey, 2s. 2d. sq. yd. (recommended).

Resurfacing of Forton Road/Mumby Road—Limmer and Trinidad Lake Asphalt Co., Ltd., Lower Drayton Lane, Cosham, Portsmouth.

**Hornsey, Middx.**—Following for B.C.: Supplying and laying rubberised bitumen (12,000 gallons)—Anglo-American Asphalt Co., Ltd., Dene Court, Bishops Lydeard, Taunton, Somerset, £1,756;  $\frac{1}{2}$  in. slag chippings for surface dressing (800 tons)—Portishead Slag Co., Ltd., North Weston, Portishead, Somerset, £1,306;  $\frac{1}{2}$  in. red granite chippings for surfacing dressing (600 tons)—Enderby and Stoney Stanton Granite Co., Ltd., 29 Dorset Square, London, N.W.1, £1,065; paving and kerbing work for 12 months ending July, 1962—Pavic, Ltd., 4 Northumberland Park, London, N.17, £3,965 (recommended).

**Hull.**—Road and sewers at Greenwood Avenue/Westway Avenue site, ref. 123, for City Council—Stepney Contractors, Ltd., Grovehill Road, Beverley.

**London.**—Repaving the carriageways of Lower Thames Street (part) and St. Mary-at-Hill (part) for City Corporation—William F. Rees, Ltd., 54 Victoria Street, London,

S.W.1, £7,669 (recommended); Howard Farrow, Ltd., £8,210; Mowlem (Civil Engineering), Ltd., £7,995; Fitzpatrick and Son (Contractors), Ltd., £7,925.

**Lurgan, Armagh.**—Laying 17,000 sq. yd. of two-course asphalt and ancillary works at Avenue Road and Edward Street for B.C. Neuchatel Asphalte (Contracting), Ltd., Northern Road, Belfast, £13,804.

**Meopham, Kent.**—Cold bitumen spraying and gravel chip dressing paths at Pitfield, Meopham Green, for A. D. Alexander Hodsons, Ltd., 17 Wrotham Road, Gravesend.

**Montgomeryshire.**—Reconstruction of bridge over Afon Twrch, Foel—three miles west of Llanerfyl on Shrewsbury-Dolgellau trunk road, A.458, for C.C. J. Davies, county surveyor, Buttington Road Rolling Co., Ltd., Min-y-Nant, Trewern, near Welshpool, £16,613. Work commenced.

**Nelson, Lancs.**—Making-up of Black Rickard Road, for B.C. H. Eaves, borough engineer and surveyor—S. Sutcliffe and Sons, Ltd., Cragg Road, Mytholmroyd, £2,120.

**Nuneaton, War.**—Completion of the Cotton Road/Church Street by-pass for B.C.—Jenkins (Coated Macadam), Ltd., Tuttle Hill, Nuneaton, £20,528.

**Oxford.**—Following for City Council: Construction of an estate road and sewers at Horspath Road industrial site—Hinkins and Frewin, Ltd., Canal Street, Oxford, £50,621; roads and sewers at industrial re-location site, Watlington Road/Sandy Lane, Littlemore—£4,193 (recommended).

Aerial survey of the Northern By-pass and for purposes in connection with the Inner Relief Roads—Fairley Air Surveys, Ltd., £5,748 (recommended in lieu of previous tender).

**Portslade-by-Sea, Sussex.**—Construction of ancillary road works for 18 flats and 12 houses at Wickhurst Rise, for U.D.C. W. E. Rudgley, engineer and surveyor—J. Penfold and Sons, 22 St. Michaels Road, Portslade-by-Sea, £1,955 (subject to Ministry approval).

**Sandown-Shanklin, I. of W.**—Reconstructing and making-up Vinings Road, Sandown, including the surfacing of carriageway and footpaths with tarmacadam asphalt and surface tarring, together with foundations, excavation works, etc., for U.D.C. T. Josey, engineer—Cheek Bros., 1 Church Litten, Newport, £1,277. Work about to commence.

**Southwick, Sussex.**—Surfacing of existing builders' road with tarmacadam and bituminous surfacing, channelling, kerbing, slab paving, construction of concrete parking lay-bys and car parks, street lighting, and ancillary works in comprehensive development area 9, new shopping centre, for U.D.C. E. A. Coates, engineer—H. Pannett (Civil Engineering), Ltd., 32 Preston Road, Brighton, 7, £24,492. Work to commence Oct. 1.

**Staffordshire.**—Reconstruction of the Stafford-Utttoxeter Road, A.518, at Amerton, for C.C. The length of road to be reconstructed is approximately 700 yd., and work involves widening and realignment, excavation, formation of embankments, provision of hedges and fences, road drainage, kerbing, carriageway foundation in wet-mix, surfacing in bituminous macadam, and extension of a culvert. F. Jepson, county surveyor—Wrekin Construction Co., Horsehay, Shropshire.

**Sunderland, Dur.**—Construction of access road to industrial site on the North Hylton Road industrial estate, for the B.C.—G. Wimpey and Co., Ltd., Orchard House, Fenwick Terrace, Newcastle upon Tyne, £4,785.

**Weston-super-Mare, Som.**—Private street works at Leewood Road, Mendip Avenue, Salisbury Road, St. Austell Road, and Woodview Terrace, for B.C.—Tarpaving (Winchester), Ltd., 19 Market Place, Frome, Som., £8,196 (work to commence October/November).

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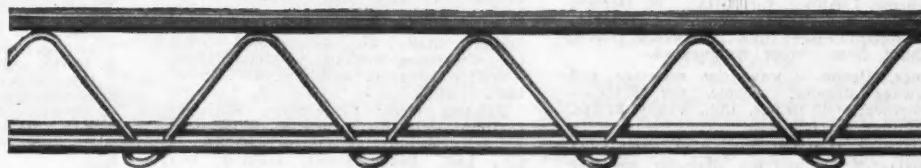
**Arklow, Wicklow, Eire.**—Construction of storm water sewer at Tinahask for U.D.C.—H. V. Flinn, Athlone, £2,454.

**Bridport, Dorset.**—Construction of 21 in. sewer at Long's Lane, for B.C.—Leonard Fisher, Ltd., Somerset House, Chard, Som.

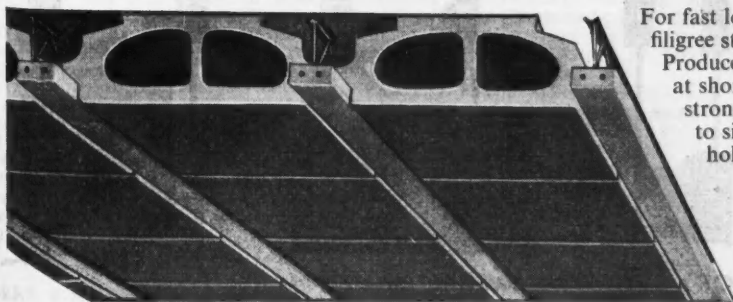
**Bury, Lancs.**—Construction of Farr Brook and Manchester Road sewers, for B.C.—M. R. Q. Construction Co., Ltd., Stampstone Street, Oldham.

**Cardiff.**—Butetown and central area redevelopment main drainage scheme for City Council, comprising the construction of approximately 3,250 lin. yd. of 9 in. to 48 in. diameter and 1,850 lin. yd. of 72 in. diameter concrete foul and surface water

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sewers, complete with brick and precast concrete manholes and ancillary works—Maberly Parker, Ltd., Ynys Yard, Taffs Well, Glam., £203,993. Work to commence Jan. 1, 1962.

**Caterham and Warlingham, Surrey.**—Construction of a surface water soakaway in Bond Road, Warlingham, for U.D.C. L. V. Gordon, engineer and surveyor—Chapin and Newman (Piling), Ltd., Moor Lane, Chessington, £689 (accepted); James Flynn and Son, Ltd., £717; Mears Bros. (Contractors), Ltd., £948.

**East Retford, Notts.**—Construction of approximately 4,200 lin. yd. of 4in. diameter stoneware house connection, with inspection chambers at Walkeringham and Beckingham, contract 5, for R.D.C. John H. Haiste and Partners, consulting engineers, Belmont House, 20 Wood Land, Headingley, Leeds, 6—M. Leydon, Scunthorpe, £15,249 (accepted); T. Debney and Co., Ltd., £15,053; Tierney and Maguire, Ltd., £31,867 (work to commence November).

**Llantrisant and Llantwit Fardre, Glam.**—Extension to Rhiwsaeson sewage disposal works for R.D.C. T. J. Hopkins, engineer and surveyor—Tudor Jenkins (Pontyclun), Ltd., Pontyclun, Glam., £83,392. Work to commence immediately.

**London.**—Rebuilding the French Ordinary Court sewer, for City Corporation—D. R. Paterson, Ltd., 33 Granville Road, London, N.W.2, £5,475 (recommended); W. and C. French, Ltd., £5,946; Wm. F. Rees, Ltd., £5,939; A. Waddington and Son, Ltd., £5,741; Howard Farrow, Ltd., £5,689.

**Midhurst, Sussex.**—(a) Stedham sewerage scheme—involving the construction in glazed stoneware, pitch fibre and asbestos-cement pipes of approximately 3,120 lin. yd. of 6in. diameter sewer, manholes, laterals, fencing and ancillary works; (b) floodgates, South Pond, Midhurst—involving the demolition of concrete apron and weir wall, and building-in of two timber penstocks, for R.D.C. K. C. Parker, engineer and surveyor—M. and D. Construction Co., Ltd., Alexandra House, Alexandra Villas, Brighton, £17,106.

**Stroud, Glos.**—Extension of the Stanley Down sewage disposal works for the Stroud and District Sewerage and Composting Joint Committee. W. Herbert Bateman and Partners, consulting engineers, Chesterfield House, Bathaston, Bath—Kottler and Heron, Ltd., Cliftonville, Northampton, £287,245 (subject to Ministry approval).

Construction of Old Neighbouring sewerage scheme, Chalford, for R.D.C. W. Herbert Bateman and Partners, consulting engineers—Leonard Fisher, Ltd., Somerset House, Chard, Som. Work commenced.

**Totnes, Devon.**—Cornworthy sewerage and sewage disposal scheme, for R.D.C.—Northcotts of Exeter, Ltd., Venny Bridge, Whipton, Exeter.

**Uppingham, Rutland.**—Laying of 3,500 yd. of sewers of 9in. and 6in. diameter, together with the construction of a sewage disposal works at Barrowden, five miles east of Uppingham, for R.D.C. Pick, Everard, Keay and Gimson, consulting engineers, 6 Millstone Lane, Leicester—Tenders received: Stamford Construction, Ltd., £38,342; T.

Woods (Leicester), Ltd., £40,153; Edward Thompson, Ltd., £45,078; T. E. Steed, £47,797; Crawshaw, Robbins and Co., Ltd., £49,744.

#### STREET LIGHTING

**Basildon, Essex.**—Street lighting—supply of 650 group B steel columns, for Development Corporation—Abacus Municipal, Ltd., Sutton-in-Ashfield, Notts.

**Gosport, Hants.**—Provision of sodium lighting units in Browdown Road for B.C.—Southern Electricity Board (recommended). Estimated cost £4,326.

**London.**—Public lighting installation at the podium of Lee House, London Wall, for City Corporation—Electrical Installations, Ltd., 65 Vincent Square, London, S.W.1, £509 (recommended).

**Newbury, Berks.**—Conversion of all gas street lighting into electricity for B.C.—Cohen Bros. (Electrical), Ltd., Bury Old Road, Manchester, £33,854.

#### GOVERNMENT CONTRACTS

**Admiralty.**—Particulars of contracts over £4,000 in value placed by Navy Works Department:

Cornwall: thermal insulation—Chancery Insulations, Ltd., London, W.1.

Renfrewshire: heating installation—Brightside Heating and Engineering Co., Ltd., Glasgow, C.3.

Hampshire: workshop extension—John Hunt, Ltd., Gosport; renovation of facade—Reparations Dreyfus, Ltd., Bristol, 3.

Devonshire: workshop superstructure—Dudley Coles, Ltd., Plymouth.

**Air Ministry.**—Contracts to the value of £4,000 or over for week ended Sept. 15:

Building work: Biggin Hill, Kent—Kerridge (Cambridge), Ltd., Catford, London, S.E.6.

Surfacing work (existing paved areas): Syerston, Notts.—Constable Hart and Co., Ltd., Richmond, Surrey.

Artificers' work: Winstone, Glos.—Wm. T. Nicholls, Ltd., Gloucester; Cottesmore, Rutland—E. Clarke and Sons (Melton Mowbray), Ltd., Melton Mowbray, Leics.; Waterbeach, Cambs., etc.—Kerridge (Cambridge), Ltd., Sturton Street, Cambridge; Ternhill, Salop, etc.—Seddon (Stoke), Ltd., Stoke-on-Trent, Staffs.; St. Mawgan, Cornwall, etc.—G. E. Wallis and Sons, Ltd., Truro, Cornwall; Stafford, Staffs., etc.—Lewis and Watters, Ltd., Greystones, Stafford; Alconbury, Hunts.—Walter Lawrence and Son, Ltd., Swaffham, Norfolk.

Painting work: Cottesmore, Rutland—J. Ibbotson, Ltd., Doncaster, Yorks.; St. Athan, Glamorgan—William Herd and Co., Ltd., Baker Street, London, W.1; Thorney Island, Emsworth, Hants—Wm. Herd and Co., Ltd.

Internal high pressure hot water heating installation: Binbrook, Lincs.—Richard Crittall and Co., Ltd., Great Portland Street, London, W.1.

**Ministry of Works.**—Contracts placed for week ended Sept. 9.

Berkshire: Sun Passage, Windsor—erection of telephone exchange—Clayton Heath, Ltd., Boyne Works, Maidenhead; Road Research Laboratory, Crowthorne—drainage to test track—Turriff Construction, Ltd., Great West Road, Brentford, Middx.

Derbyshire: National Assistance Board, Alvaston Camp, Alvaston—alterations—Waller (Littleover), Ltd., Thornhill Road, Littleover.

Glamorgan: Porth—completion of automatic telephone exchange—David Lewin (Builders), Ltd., Measgwyn, Williamstown, Tonypandy.

Gloucestershire: Government Building, Elmbridge Court, Gloucester—internal decorations—Ford and Weston, Ltd., 542 Osaston Road, Derby; Empire Hotel, Bath—internal decorations—J. W. Knight and Sons, 3-4 Beau Street, Bath.

London: Customs and Excise, Royal Albert Dock—erect office—J. Mowlem and Co., Ltd., 91 Ebury Bridge Road, S.W.1; Telephone Exchange, Willesden, N.W.10—alterations to inquiry bureau—R. Densham and Sons (Construction), Ltd., 120 Fortune Green Road, N.W.6; Government Buildings, Kidbrooke Park Road, S.E.3—internal decorations—Spraycraft Co., Ltd., 101 Palace Road, Bromley, Kent.

Middlesex: Public Records Office, Bourn Avenue, Hayes—firebreak partitions—Durasteel, Ltd., Oldfield Lane, Greenford.

Shropshire: Shrewsbury—erection of Post Office workshop—John Bromley and Sons, 74 Watling Street, Church Stretton.

Warwickshire: Alcester—erection of Post Office—Aspley and Co., Ltd., 62 High Street, Evesham, Worcs.

**Post Office.**—Contracts for duct laying, etc., works to the value of £4,000 and over placed during the week ended Sept. 9:

James Cooper (Construction), Ltd., 28 Kensington Church Street, London, W.8; Crawford and Cryan Ltd., 124 Stafford Road, Wallington, Surrey; E. and B. (Construction), Ltd., 24 Allyn Drive, Pen-y-Ffordd, Chester; J. Murphy and Sons, Ltd., 43 Charteris Road, Finsbury Park, London, N.4; The Norwest Construction Co., Ltd., Litherland, Liverpool, 21.

**War Department.**—Contracts placed for the week ended Sept. 8:

Berkshire (Shrivenham): painting—T. H. Kenyon and Sons, Ltd., London, W.9.

Devon (Denbury): miscellaneous—Willcocks and Stephens, Ltd., Paignton.

Dorset (Piddelhinton Camp): steel-framed buildings—Maurice Hill, Ltd., Horndean; building—Arthur Parsons and Sons, Dorchester.

Kent (Lydd): miscellaneous—J. J. Clayton and Son, Ltd., Folkestone.

Leicestershire (Old Dalby): building—F. Harris and Co., Ltd., Leicester.

Northumberland (Redesdale): landing air strip—Thomas Muckle and Sons, Ltd., Rothbury.

Nottinghamshire (Chilwell): miscellaneous—W. H. Herries, Ltd., Nottingham.

Oxfordshire (Bampton): building—Wain Bros. (Contractors), Ltd., Swindon.

Co. Tyrone (Omagh): building—McCann Bros. (Omagh), Ltd., Omagh.

Worcestershire (Worcester): building—J. C. Meades, Ltd., Evesham.



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PETERBOROUGH      STOCKTON

## START SOON ON £350,000 ARTHRITIC CENTRE IN SUSSEX

### Single- And Two-Storey Buildings

TOWN planning and by-law consents have been obtained for the building of a £350,000 centre for arthritic people at Crowborough, Sussex.

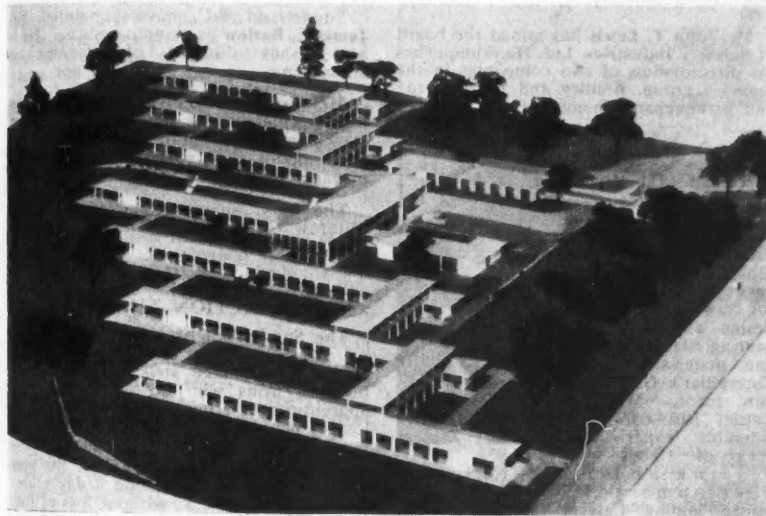
Promoted by The Horder Centres for Arthritics, the scheme is for a residential centre to cater for 100-120 patients. In addition, it is planned to erect 25-30 small terraced bungalows for arthritics who will be taken to the centre for treatment.

Tenders are to be invited shortly for the first stage works. Site works are expected to commence in December and actual construction in January next year. This first stage will provide one patients' wing, office accommodation and the first treatment block.

The layout takes advantage of the natural beauty and contours of the site. Groups of courtyards are formed by single-storey and two-storey buildings. All patients' rooms are situated on ground floor level and have a view either to the south, south-west or west.

The central building of the layout is a two-storey block comprising kitchen and dining-room on the first floor and physiotherapy department on the ground floor. All patients can reach this block without change of level, arriving either on the first or ground floor. Lifts will be installed in this block as well as a staircase with low rises. The scheme also includes an administration building, a small sick bay and an extension for a hydrotherapy pool.

The architects, James A. Crabtree and Associates, 70 Blandford Street, London, W.1, have carefully considered the need of providing absolutely dry, draught-proof and well-heated buildings. The standard of thermal insulation is very high. All floors and external walls contain highly efficient damp-proof membranes and special layers for thermal insulation. Double-glazed windows are used throughout to decrease heat-loss and reduce the running costs of the central heating plant. All rooms can be heated to a maximum of 75 degrees F., but patients have individual control of the heating in their rooms.



A model of the completed scheme

### G.E.C. LIGHTING AND HEATING MOVE

The Lighting and Heating Group of the G.E.C. announce the merging of their Central, North and South London sales areas into one organisation which now operates from new headquarters at G.E.C. Lighting and Heating Group, London Area Sales Office, Lena Gardens, Hammersmith, W.6. (Tel: Riverside 4671.)

The new organisation will comprise full sales and technical services and is to be headed by Mr. S. E. Mason, previously manager of the Central London Area; Mr. J. T. Mellor becomes manager, technical services; Mr. T. E. Pickering—area chief lighting engineer and Mr. G. W. Findlay—area chief heating engineer.

### M.E.X.E. TEST REPORT ON YALE TRACTOR SHOVEL

In accordance with the arrangements made by the Federation of Construction Equipment Manufacturers with the Military Engineering Experimental Establishment for the testing of construction equipment under agreed Test Codes, the following test report is now available:

Yale and Towne Manufacturing Co.,  
Wednesfield, Wolverhampton, Staffs.  
Report No.: T11 dated March, 1961.  
Title: Yale and Towne 154 LD  
Tractor Shovel.

Applications for the report should be made to the manufacturer.

### PLESSEY LEASE SWINDON FACTORY

The conclusion of negotiations to lease a further 50,000 sq. ft. factory from Swindon Corporation at Cheney Manor has been announced by The Plessey Co., Ltd.

Close to the firm's existing Plessey factory group, the new building is expected to be used for expansion of the company's industrial hydraulics division. Plessey recently completed licence agreements with Guldner-Motoren-Werke for the production in this country of Guldner Hydro-Stabil hydraulic equipment.

### CONSTRUCTION ACCIDENTS IN SECOND QUARTER

ACCORDING to the *Ministry of Labour Gazette*, in the second quarter of 1961 there were 37 fatal accidents on building operations and 24 on works of engineering construction.

#### Building Operations

##### Industrial Building:—

	Fatal Accidents	Total Accidents
Construction ... ..	13	1,469
Maintenance ... ..	5	314
Demolition ... ..	3	85
Commercial and Public Building:—		
Construction ... ..	3	1,024
Maintenance ... ..	3	252
Demolition ... ..	2	59
Building of Blocks of Flats:—		
Construction ... ..	2	244
Maintenance ... ..	—	28
Demolition ... ..	—	4
Building of Dwelling Houses:—		
Construction ... ..	1	681
Maintenance ... ..	2	291
Demolition ... ..	1	25
Other Building Operations:—		
Construction ... ..	1	140
Maintenance ... ..	—	48
Demolition ... ..	1	17
<b>Total ... ..</b>	<b>37</b>	<b>4,681</b>

#### Works of Engineering Construction

##### Operations at:—

Tunnelling, Shaft Construction, etc. ... ..	—	85
Dams and Reservoirs (other than tunnelling) ... ..	1	74
Bridges, Viaducts and Aqueducts (other than tunnelling) ... ..	7	35
Pipelines and Sewers (other than tunnelling) ... ..	5	220
Docks, Harbours and Inland Navigations ... ..	2	117
Waterworks and Sewage Works (other than tunnelling) ... ..	—	75
Work on Steel and Reinforced Concrete Structures ... ..	2	121
Sea Defence and River Works ... ..	1	15
Work on Roads and Airfields ... ..	6	303
Other Works ... ..	—	78
<b>Total ... ..</b>	<b>24</b>	<b>1,173</b>

### NEW LIGHTING COLUMNS FOR PARK LANE

Stewarts and Lloyds, Ltd., have been awarded, through Atlas Lighting, Ltd., a contract for the supply of 104 tubular steel lighting columns with 40ft. mounting height for the Park Lane, London, improvement scheme.

This will be the first installation in Great Britain of lighting columns with lamps mounted at 40ft. Column and lantern were specially designed to meet the requirements of the London County Council and the Westminster City Council.

Considering the mounting height the columns are extremely slender, having an outside diameter of 8½in. at the base, reducing to 3½in. at the top. The bracket arms have an outreach of 8ft. 6in.

Manufactured in accordance with British Standard 1840:1960 they have been approved by The Council of Industrial Design and are listed by Stewarts and Lloyds as type LC.2.

The installation will cover the area included in the improvement scheme—Hyde Park Corner, Marble Arch, Park Lane and the new south-north roadway through Hyde Park.

### £400,000 SLAG PREPARATION PLANT CONTRACT

Stothert and Pitt, Ltd., Bath, have been awarded a £400,000 contract by the Stanton Ironworks Co., Ltd., for the design, construction and erection of a complete slag preparation plant at Stanton for the manufacture of road materials, railway ballast, filter media, tarmacadam and asphalt.

The plant has a designed capacity of 200 tons per hour, with the possibility of increasing later to 300 tons per hour.

### TENDERS FOR £214,000 HOSPITAL CONTRACT

North West Metropolitan Regional Hospital Board are now inviting tenders (see page 1538) for the erection of out-patients, casualty and pathological departments at the Bedford General Hospital, South Wing, Kempston Road, Bedford.

The architect for the work, which is estimated to cost £214,000, is Morris de Metz, F.R.I.B.A., 29 Gloucester Place, Portman Square, London, W.1.

## Men and Movements

**MR. W. H. SHARP**, managing director of Thomas Smith and Sons (Rodley), Ltd., is leaving Britain by air on September 30 on a prolonged tour of Smith distributors. With Johannesburg as his first place of call, Mr. Sharp will visit Perth, Adelaide, Melbourne, Sydney and Brisbane in Australia and then go on to visit both the North and South islands of New Zealand. From New Zealand he will travel by air to Singapore and will take the opportunity of going up country to Kuala Lumpur before flying on to India to visit Smiths' distributors in Delhi, Calcutta and Bombay. Mr. Sharp hopes to be back in Britain early in December.

British Hoist and Crane Co., Ltd., have announced the appointment of **Mr. D. L. O. Lloyd** as crane sales manager. He has joined the company after serving with Priestman Bros. for 7½ years as technical sales representative. Based at the London depot of British Hoist and Crane, he will be responsible for mobile crane sales throughout Great Britain.



D. L. O. LLOYD

**Mr. Angus Whiteway** has recently joined Geo. C. Croasdale (Haverthwaite), Ltd., as their agent for site clearance and earth moving contracts.

Newly elected to the board of Barfords of Belton, Ltd., is **Mr. J. Ellis**, whose appointment as sales director takes effect from October 1.

Re-elected as president of the Institute of Road Engineers is **Sir William Black**, chairman of A.E.C., Ltd. **Mr. J. H. Vincent**, technical officer of London Carriers, Ltd., has been re-elected vice-president.

Among passengers recently disembarking from the "Queen Mary" at Southampton on their return from the United States was **Mr. A. E. Masters**, managing director of Peters Oil Engines, Ltd.

**Mr. K. L. Bourne**, M.I.Struct.E., M.Inst.Gas.E., who has been with Thomas Vale and Sons, Ltd., for 34 years and was appointed a director in 1955, has been appointed managing director with effect from October 1. He has been connected with the Reinforced Concrete Association since its inception, having served on the London Council and has been chairman of the Midland Counties branch. He is also serving on the Midland Counties branch of the Institution of Structural Engineers.

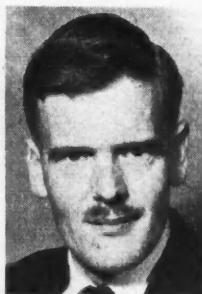
**Mr. J. T. Fitzgerald** has been appointed managing director of Hawley Plant, Ltd., and **Mr. C. P. Mills**, A.C.I.S., has been appointed company secretary/accountant.

The Minister of Transport has appointed **Mr. H. Perring** to succeed **Mr. R. A. Lovell**, C.B.E., A.M.I.Mech.E., as chief mechanical engineer. Mr. Lovell will retire next December and Mr Perring will take up his new appointment at the beginning of that month.

Wolf Electric Tools, Ltd., have appointed **Mr. Johannes Bundgaard** as sales supervisor in Denmark. Mr. Bundgaard is a power tools specialist of wide experience, particularly amongst the Danish engineering industry.

**Mr. John T. Lewis** has joined the board of Staveley Industries, Ltd. He relinquishes his directorships of two companies in the Staveley group, Bradley and Foster, Ltd., and Birmingham Chemical Co., Ltd.

**Mr. A. F. Cattell** has been appointed chief engineer of Caterpillar France S.A. in Grenoble, France. He was engineering general supervisor for crawler tractor design and engineering standards and materials at Caterpillar's Glasgow plant. Mr. Cattell had considerable experience of tractor testing and development before joining Caterpillar Tractor Co., Ltd., as a design engineer four years ago.



A. F. CATTELL

**Mr. W. R. R. Husser**, managing director of United Construction Machinery Co., Ltd., has recently also been appointed managing director (Geschäftsführer) of Robb Baumaschinenengesellschaft m.b.h., Dusseldorf.



W. R. R. HUSSER

The chairman and joint managing director of British Ropes, Ltd., **Mr. H. Smith**, has joined the board of the United Steel Companies, Ltd.

### MUNICIPAL

After 32 years' with March (Cams) U.D.C., **Mr. William S. Pickett**, the engineer and surveyor, will retire at the end of next January.

**Mr. D. B. Peace**, chief assistant planning officer in Staffordshire for 12 years, leaves in November to become deputy county planning officer for Cambridgeshire.

Sunderland B.C. have appointed **Mr. James E. Barlow** as planning officer. He is at present director of planning at Aberdeen.

**Mr. Gordon J. Powell**, who has been deputy chief estates officer with Basildon Development Corporation since 1953, has been appointed chief surveyor and estates manager to the Cecil Lewis Group.

The new engineer and surveyor to Milnrow (Lancs) U.D.C. is **Mr. G. Siree**, A.M.I.Plant.E.

### STRIKE ACTION THREATENED

The Sunderland branch of the Amalgamated Society of Woodworkers has threatened to take strike action against building firms who do not allow their apprentices to attend day classes without loss of pay.

**Mr. H. Wilkinson**, secretary of the branch, said that boys between the ages of 16 and 18 had to attend a day school at least once a week, without loss of pay, under the national apprenticeship scheme. Some employers were carrying out this arrangement, but others were not. The Association had warned employers that strike action might result if they did not carry out the agreement.

### TWO NEW TOWNS PROPOSED

The Town and Country Planning Association, in a statement to the Minister of Housing and Local Government, propose the development of two new towns, one at Dawley, Salop, and the other in the Woofferton-Orleston area on the Salop-Herefordshire border.

Swynnerton, Staffordshire, is proposed as an alternative for one of the new towns, but it is pointed out that the area is bisected by the London-Lancashire Motorway.

### U.K. CONSULTANTS TO STUDY DURGAPUR REPORT

W. S. Atkins and Partners, the consulting engineers, have been invited to examine a project report on the proposed expansion of the Durgapur steelworks by 600,000 tons. On the basis of the report the Indian Government will invite tenders.

The Durgapur plant was erected by the Indian Steelworks Construction Co., Ltd., comprising a number of British firms, including The Cementation Co., Ltd.



The photograph (left) shows how the prestressing strands are located inside a beam segment of the Hammersmith Flyover in West London. The roadway of the flyover is carried on prestressed concrete beam segments alternating with 12in. thick transverse cantilever units. Each beam segment is 8ft. 6in. long and varies in weight between 36 and 60 tons. The cantilever units weigh up to 15 tons. Each combination of beam segment and cantilever unit is prestressed by four groups of 16 1½in. diameter strands, one group passing on each side of the inner webs of the beam segments and through the cantilever units. Altogether, there are 202 beam segments and 202 cantilever units, prestressed with about 223 tons of prestressing strand supplied by British Ropes, Ltd.



## PROGRESS OF THE MOTORWAYS

BRITAIN'S rate for opening motorways is 6½ in. a minute. In the 1,001 days between September 1 and the December, 1958 opening of the Preston By-pass—Britain's first motorway—148½ miles of the super-roads have come into service.

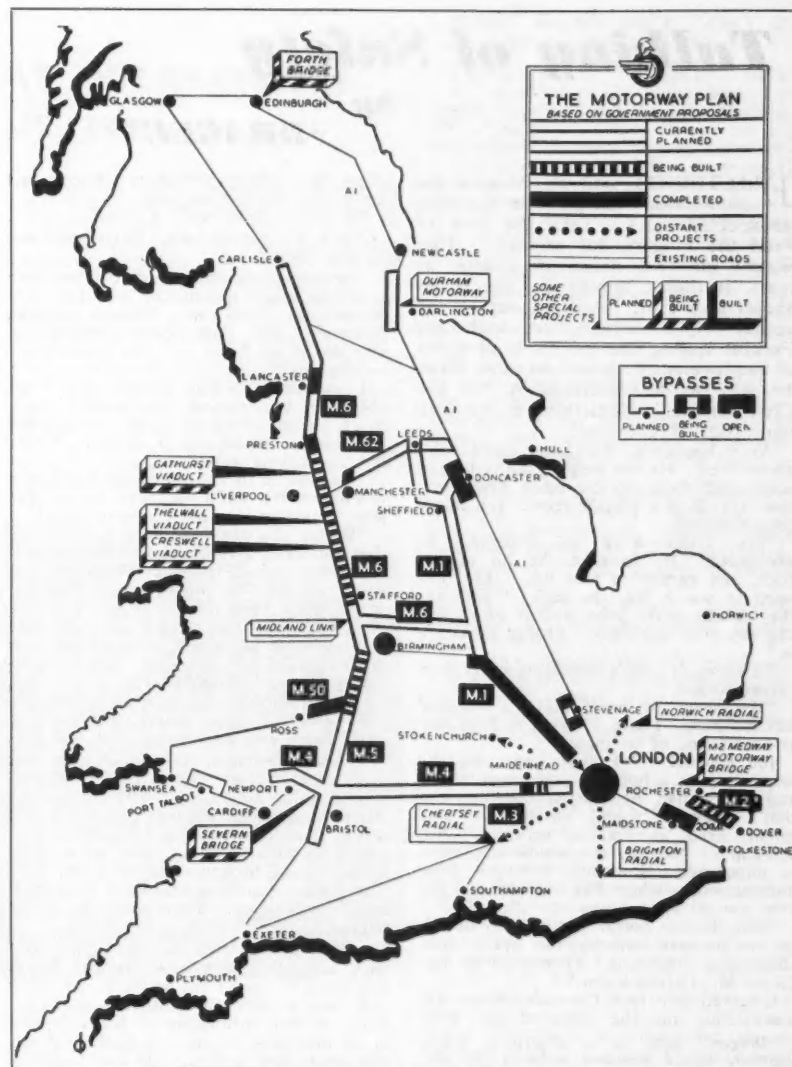
Another 144 miles are under construction at an estimated cost of £76.5m, and about 300 miles will be open by the end of 1963. The total bill? About £132m.

These and other facts are contained in the second edition of the Roads Campaign Council's "Motorways Progress Map" which plots 927½ miles of motorways currently under consideration by the Government.

"The quicker we can double our building rate to 13 in. a minute, the better," a spokesman of the Council said: "The fabulous 70 m.p.h. cruising which the M.1 safely allows proves that the whole population must have these twentieth century highways."

"But although the motorways will kill those nightmare journeys between hundreds of hamlets, towns and cities they pose a lethal threat to cities like London where the scale of road-works are out of keeping with the times."

"National motorways must be linked to first-class, de luxe highways in urban areas if the populace is to get the greatest return for the vast sums the national expressways cost. This is not being done and the Government should give immediate priority to more spending inside urban



areas," the Council spokesman added.

The map comes at an opportune time. The recently published Road Research Board Report predicts that by 1980 there will be 25,000,000 vehicles (2½ times more than today) on Britain's roads; and 34,000,000 by the year 2000.

"In the light of these figures it is imperative that motorways should be built with an eye on enlargement in the future. It would be a national scandal if the taxpayers' money is wasted on roads out-flanked by the meteoric rise in traffic," the spokesman said.

## ACCRINGTON SHOPPING CENTRE CANTILEVERED OVER RIVER

SITUATED in the centre of Accrington, a shopping development recently completed for Arndale Property Trust, Ltd., contains six shop units and two major stores, the majority of the units having basement storage areas.

The Cornhill Street end of the two-storey building is cantilevered over the River Hyndburn, which flows underground at this point, and the design incorporates many large section concrete beams. Foundations throughout are carried on concrete piles 4ft. 6in. in diameter, some going down to a depth of 21ft.

The building itself is of a composite construction with load bearing brick walls and reinforced concrete beams, with a special prestressed floor. The front elevation has a large artificial stone centre section with lighter coloured surround, contrasting with the adjacent rustic brick. Lower sections of front windows are glazed in yellow and torquoise glass panels protected by a wrought iron balustrade.

Shop interiors use terrazzo flooring and lighting. Outside, a flagged pavement is separated from the road by a series of flower gardens, with perambulator parks and a fountain at each end. Weather protection is given by a concrete canopy projecting 8ft. from the building.

The architects were Mr. Gerald Baxter, of Arndale Property Trust, Ltd., who work in co-operation with Shingler and Risdon, 47 Bedford Row, London, W.C.1. Leslie and Co., Ltd., 260 Swan Arcade, Bradford, 1, were the contractors.

### PRESTRESSED PIPE ORDER WORTH £259,000

A contract for the supply of approximately 11 miles of 27in. and 30in. diameter prestressed concrete pressure pipes and fittings has been awarded to Stanton and Staveley Sales, Ltd., near Nottingham, by the Medway Water Board.

Valued at approximately £259,000, this order is for trunk mains in connection with the Belmont water supply scheme.

### £5M. SHEFFIELD REDEVELOPMENT PLAN

A reinforced concrete framed tower block, 25 storeys high, is the main feature of a comprehensive redevelopment scheme for the Sheaf Valley, Sheffield, announced by Estates Property Investment Co., Ltd.

The scheme is estimated to cost £5m. and has been submitted to the Sheffield City Council for approval. It covers a 7-acre site adjoining the heart of the city and, with the 25-storey office block, includes a conference hall, multiple store, banks, shops, showrooms, a hotel and flats.

Complete traffic and pedestrian segregation is provided for in the plans, and a new wide commercial street is proposed, raised above the shopping deck and carrying the high street traffic across the valley. Under this deck, warehousing and service traffic approach from Sheaf Street with a multi-level car park for 700 vehicles.

The 25-storey block would overlook Fitzalan Square on one side and a large new square on the other. A restaurant would span the new road.

Marsh and Woolf, 3 Old Barrack Yard, London, S.W.1, have prepared the plans, and du Bosky and Partners, 28 Berkeley Square, London, W.1, are acting as quantity surveyors.

# Talking of Safety

by

**"DRAGEE"**

**E**LECTRICITY and its dangers are sometimes highlighted in the most unexpected ways. Take the case of Fred the Fingers, for example. That wasn't his real name, of course—at least, it didn't appear on the wages sheets like that. It came out in the course of a conversation with Joe Perkins during one of his brief spells of employment with us. At other times he was, as he described it, "in the Civil Service." Something to do with mail bags, I gathered.

As it happened, Joe knew quite a lot about Fred. He was helping me to unload some stuff from my car when Fred went past, trundling a wheelbarrow. Joe stared open-mouthed.

"Cor cripes—Fred the Fingers," he exclaimed. He lowered the lid of the boot, and turned to face me. "Ere, you want to watch 'im," he said. "'E'll 'ave the change outer your pocket afore you can say two 'alf pints. Proper crook, 'e is."

I glanced at Fred's retreating back, then turned to Joe.

"We seem to have quite a thieves' kitchen here," I said. "What is Fred-the-Fred's line of business?"

Joe snorted. "'E first went into the crime lark as a hoister—you know, shops and that—then he started dipping, and that's where he found 'imself. Got real talent, Fred 'as—but no scruples. Not a scruple. No, sir, not where employers is concerned. Now me, I never done nothing wrong where I've bin working. My jobs are all after hours."

"O.K. Joe—better not go into details or you'll have me up for aiding and abetting or something. Thanks for the tip. I'll let Mr. Carson know."

I walked into Jack Carson's office. He was sitting on the edge of his desk

"Dragee," who is a practising safety engineer, would welcome subjects for discussion in this column. All names of persons mentioned in these discussions are entirely fictitious. Questions of law are expressed as the author's personal opinions and are not claimed to be authoritative.—EDITOR.

admiring a new petrol-lighter someone had given him for his birthday.

"Is that a good one?" I asked.

"Sure it's a good one. Best I've come across. Why?"

"Because you'd better hide it. We have a professional pickpocket on the job. Known as Fred the Fingers in the fraternity—I've just been talking to another of 'em."

"Perkins?"

I nodded. "Perkins knows quite a lot about his background. He doesn't think much of his integrity—liable to do his employer a bit of dirt, I gather. Where did you collect him?"

"He walked in and asked for a job as a labourer. We had a vacancy. He got the job. Question is: what do we do now?"

"Under the circumstances I don't see that you can do anything—except fire him at the first sign of trouble. Of course, you could put him to work as Joe Perkins' mate. He'd look after him all right."

Carson chuckled. "Too risky, old boy. I think we'll warn the foremen and tell them to keep an eye open. After all, he may be going straight now."

"And we don't want to spoil his chances—I agree. I hope you're right, but I don't much care for the look of him."

It was inevitable, I suppose, that the true character of our latest malefactor should quickly spread around the job. I don't think it worried him very much. He was a dour individual and he seemed to prefer his own company. He did enough work to keep his job—and no more.

For a time, nothing untoward happened, and interest died. Then suddenly things began to vanish.

At first it was only the odd hammer or two, and then a pair of rubber boots belonging to one of the assistant engineers and then a trickle of assorted articles—most of them belonging to the company or to members of the site staff. Carson was angry and baffled. He had tactfully interviewed Fred the Fingers in his office and Fred had laughed scornfully at the whole thing. . . . Carson thought about the police, then decided to wait.

"Things are always getting lost or disappearing off the job," he said. "It mightn't be him. I'm going to hang on a little longer."

He only had to wait until the next day, because just before noon two of the joiners went down into the new conveyor tunnel and found Fred lying face downwards with his nose in 3in. of water. He was dead. The post mortem showed that the cause of death was suffocation, following loss of consciousness due to a head injury. What had caused the head injury? A fall of 5ft. from a trestle. What had caused the fall? Electric shock.

Of course, it all came out at the inquest. Running true to form, Fred had been removing electric lamps from the tunnel roof. The switch was in "off" position all right but one of the screw caps was alive. The current at the lamp was only 55 volts, but the slight shock had thrown him off his balance, and down he went.

A day or so later the police returned a number of articles which were stamped with the company's name. There were also several personal items belonging to some of the men. Oh, and I nearly forgot. They returned Jack Carson's lighter.

## CIVIL ENGINEERING COURSES AT LONDON POLYTECHNIC

Special short courses for practising engineers are to be held on weekday evenings during the 1961-62 session by the London Polytechnic, 307 Regent Street, London, W.1.

The fee for each course is £1 and applications for places must be made to the Registrar of the Department of Civil and Mechanical Engineering.

The courses include: "Prestressed Concrete," by F. W. Gifford, B.Sc.(Eng.), Ph.D., D.I.C., M.I.Struct.E., A.M.I.C.E., commencing Sept. 26, 1961; "Contractors' Plant," by A. G. Stone, A.M.I.Mech.E., M.I.Plant.E., F.R.G.S., commencing Sept. 29, 1961; "Ultimate Load Design for Reinforced and Prestressed Concrete," by L. L. Jones, M.A., A.M.I.C.E., commencing Nov. 7, 1961; "Highway Engineering," by J. Hillier, B.Sc., T. M. Coburn, B.Sc., and J. M. Fisher, B.Sc., M.I.C.E., M.I.H.E., commencing Nov. 9, 1961; "Engineering Concretes," by D. A. Stewart, M.B.E., M.I.C.E., A.M.I.E.E., commencing Jan. 16, 1962; "An Outline of Photogrammetry and its Application in Particular to Civil Engineering," by E. A. Miskin, M.A., B.Sc., Ph.D., A.R.I.C.S., P. G. Mott, B.A., A.M.I.C.E., F.R.I.C.S., and W. P. Smith, M.B.E., M.A., F.R.I.C.S., commencing Feb. 8, 1962; "The Linear Analysis of Cylindrical Shells," by J. Munro, B.Sc., D.I.C., A.M.I.Struct.E., commencing Feb. 9, 1962; "Foundation Engineering," by S. Rosenak, B.Sc.(Eng.), D.I.C., A.M.I.C.E., A.M.I.Struct.E., commencing May 1, 1962; and "Collapse Design of Steel Structures," by W. M. Jenkins, B.Sc., Ph.D., A.M.I.C.E., commencing May 4, 1962.

## CHALK LIME ASSOCIATION OPEN DAYS

Open Days will be held on October 4 and 5 by The Chalk Lime and Allied Industries Research Association at Church Street, Welwyn, Herts., when the work of the Association will be illustrated by a programme of exhibits.

Exhibits will include examples of measurement, analysis and testing in lime production, sandlime brick production and building mortars. Other items will deal with the uses of lime in road construction and in the prevention of corrosion; the silicone treatment of brickwork; and weathering tests on bricks and mortars.

## M-F TRACTORS MADE IN INDIA

Massey-Ferguson have announced that their associate company in India, Tractors and Farm Equipment, Ltd., are now producing M-F.35 tractors. They are powered by the locally made Perkins diesel engines.



"Watch the top three courses, Harry—they're not too safe!"

**International Construction****BRITISH PAVILION AT INTERNATIONAL  
TRADE FAIR, PERU**

**N**EXT month President Prado of Peru will inaugurate the Pacific International Trade Fair which is to be held in Lima from October 11-29.

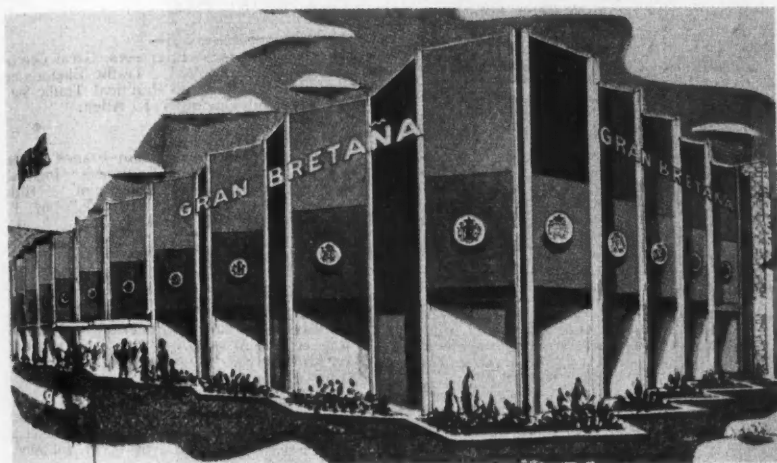
The main structure of the British Pavilion is provided by four Coseley steel framed buildings enclosing an area of 180ft. x 125ft. Designed by the Central Office of Information, the elevational treatment is executed in 20ft. tall panels in light and dark blues, surmounting 10ft. of clear English glass.

Coseley Buildings, Ltd., Wolverhampton, were awarded the framework contract by the Board of Trade. Final details were settled on June 6 and the first shipment of the steelwork was made on June 26. The

remaining items, including aluminium sheeting to the roofs and three sides, were shipped on July 14.

Basically, this is a standard Coseley building, although it was made specially at the Board of Trade's order for the Pavilion. It comprises four portal frame bays arranged to form a square, one of 70ft. span by 125ft. long, adjacent to which are placed two 70ft. spans each 25ft. long, one at each end. The square is completed by a bay of 40ft. span, 125ft. long. This arrangement allows a courtyard open to the sky in the centre of the Pavilion.

The building is sheeted with aluminium profile sheeting to the roof and the three external sides.



Artist's impression of the British Pavilion

**ROOF LAKE ON ADELAIDE  
BUILDING**

One of the most unusual roofs for industrial buildings in Australia has been built on the offices of Cadbury-Fry-Pascall, chocolate manufacturers of Welland, near Adelaide.

The building is low-built and the roof top carries a lake of water 6in. deep for the purpose of reducing the load on the air-conditioning plant in the building. The water also provides insulation, ensuring even temperatures for the office staff.

In planning the roof more than usual care was given to protection against seepage, and this involved extensive use of mastics and waterstops. Bitumen-impregnated cane fibre was also used to a depth of 3in. Another feature is a water-stop which has a central bulb providing for both shear movement and the normal thermal movement of the structure.

**BAHAMAS CEMENT INDUSTRY**

The Bahamas House of Assembly have passed a Bill which will enable Portland cement to be produced on a large scale in the Freeport area. Under the Bill the Bahamas Cement Co. will invest up to \$50m. and will be granted a monopoly for a period of 12 years.

It is reported that \$30m. of the investment represents the estimated cost of the plant and equipment while an additional \$10m. is required for supplementary raw materials and transportation, etc. The remaining \$10m. is to be used in setting-up comprehensive transport and distribution facilities.

**PERKINS DIESELS IN BRAZIL  
FORD TRUCKS**

Ford are offering Brazilian-made Perkins diesel engines as optional first equipment in their F.600 trucks in Brazil. The trucks, made by Ford Motor do Brasil, are being fitted with the six-cylinder Perkins 6.340 engine, made by Motores Perkins S.A., of Sao Paulo.

Motores Perkins are already supplying four-cylinder engines for a Ford tractor made in Brazil, and are also to produce engines for Massey-Ferguson tractors manufactured there.

**400-ROOM HOTEL FOR SYDNEY**

Qantas Airways are to build a £4m. international hotel in the heart of Sydney. To be completed by 1965, it will have 400 rooms as well as convention halls and shopping arcades.

The site is adjacent to Qantas House, with frontages on Elizabeth and Bligh Streets. Final plans for the building, which will have views over the city and harbour, are now being prepared.

**DOMINICAN COMPANY FOR  
HYDRO PROJECTS**

A new company with an authorised capital of \$500,000 has been formed by a group of civil engineers in the Dominican Republic to construct dams, hydro-electric systems, canals and other water engineering projects. The consortium is called Constructora de la Presa Tavera, C. por A.

**HONG KONG DIRECTORY IS  
AID TO BUSINESSMEN**

"**T**HROUGHOUT its history," says a foreword to the Hong Kong Commerce, Industry and Finance Directory, 1961, "the British Crown Colony has faithfully adhered to the principles under which it was founded and on which its prosperity depends: free enterprise and free trade. . . Hong Kong asks of others only that they should understand its problems and respect the principles by which it lives through giving the Colony's merchants the right to sell its products in fair competition in the markets of the world."

The Directory is designed as an overseas businessman's guide to the commerce, industry and finance of Hong Kong in 1961. It illustrates the pattern of the Colony's trade and industry and indicates the measures being undertaken in collaboration by the Government, merchants and manufacturers to promote Hong Kong's trade, particularly in the field of exports.

The first three chapters describe the Colony's administrative, economic and industrial development. Another chapter assembles the salient facts required by a businessman who is thinking of investing in Hong Kong.

Other chapters deal with the Colony's resources and services, trading practices and procedures.

Copies of the directory may be obtained, free of charge (but send an addressed label with 1s. 1d. stamps), from the Hong Kong Government Office, Grand Buildings, Trafalgar Square, London, W.C.2.

**AUSTRALIAN COMPANY TO  
MAKE FRICTION MATERIALS**

Hardie-Ferodo Pty, Ltd., is the title of a new company to be formed in Australia for the manufacture and marketing of brake linings, clutch facings and other friction materials.

The company is being created, with an authorised capital of £A3m., by a merger of the Australian Ferodo interests of Turner and Newall, Ltd., and the brake lining division of James Hardie and Co. Pty., Ltd., Sydney. Turner and Newall, Ltd., will have a substantial minority holding in the new company, which will be operated by James Hardie Asbestos, Ltd., as a subsidiary.

**TYPHOONS AND BUILDING DESIGN**

Valuable information for analysis of typhoon winds in relation to building design has been gained by Hong Kong Royal Observatory, who recently sent up a radiosonde balloon into the eye of a typhoon.

Two radarwind and one combined radarwind-radiosonde ascents were attempted every day during the second quarter. A total of 364 satisfactory radarwind and 91 satisfactory radiosonde soundings were made in the same period.

**JAMAICA CEMENT EXPORT  
PLANS**

The Ministry of Trade and Industry is examining the expansion plans of the Caribbean Cement Company to add a third kiln to boost production by 50 per cent. in two years, report Barclays Bank D.C.O. from Jamaica. The scheme will cost £2½m. and is expected to put Caribbean Cement into the export trade.

**EXPANSION OF ELECTRICITY IN  
VICTORIA**

A new power project under construction will nearly double electrical generating capacity in Victoria. The plant is being built at Hazelwood, in the Latrobe Valley at a cost of £A120 million. It will have a capacity of 1,200,000-kW when completed in 1971. The plant will ultimately consume 13 million tons of brown coal a year drawn from huge deposits which now supply the bulk of Victoria's electric power.



## FOR THE DIARY

**Sept. 29**

Meeting of the Birmingham branch of the Institution of Plant Engineers, Imperial Hotel, Birmingham, 7.30 p.m. "The Planning, Application and Maintenance of Industrial Lighting" by V. Heydon, manager, Lighting Division, G.E.C.

**Sept. 29-30**

Plant exhibition and demonstration arranged by the North West branch of the Contractors' Mechanical Plant Engineers, Territorial Army Test Ground, Aigburth, Liverpool.

**Oct. 2**

Annual dinner of the Scottish branch of the Institution of Highway Engineers at the Grosvenor Restaurant, Glasgow. Reception 6.30 p.m.

**Oct. 3**

Meeting of the Hants and Sussex branch of the Contractors' Mechanical Plant Engineers, Red Lion, Petersfield. 7.30 p.m. Conference of the Association of Public Lighting Engineers, Scarborough. Oct. 3-6. Meeting of the Manchester and District branch of the Contractors Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale. 7.30 p.m.

Institution of Civil Engineers, Great George Street, London, S.W.1. "Three Prestressed Concrete Railway Bridges", by F. Turton.

**Oct. 4**

International Design Congress to be held by the Council of Industrial Design at the Royal Society of Arts, Oct. 4-5.

Annual conference and exhibition of the National Society for Clean Air, Dome, Brighton, Oct. 4-6.

**Oct. 5**

Convention on "Planning for Traffic" arranged by the Institution of Municipal Engineers, London.

Meeting of the Institution of Structural Engineers, London. Presidential Address.

Meeting of the London branch of the Contractors' Mechanical Plant Engineers, Hendon Way Hotel, Hendon Way, N.W.4. 7.30 p.m.

**Oct. 6**

Institution of Highway Engineers at 11 Upper Belgrave Street, London, S.W.1. "Road Accidents—Remedy or Revenge", by J. J. Leeming, Dorset county surveyor.

**Oct. 9**

Annual conference of the Institute of Quarrying, Palace Hotel, Torquay. Oct. 9-13.

Meeting of the Yorkshire branch of the Contractors' Mechanical Plant Engineers, Ladies' Night.

**Oct. 10**

Annual dinner of the Contractors' Plant Association, Dorchester Hotel, London.

Meeting of Manchester branch of the Institution of Plant Engineers, Manchester Literary and Philosophical Society's Rooms, George Street, 7.15 p.m. "The Trends and Progress of Nuclear Power Station Design," by W. G. Busbridge, United Kingdom Atomic Energy Authority.

Institution of Civil Engineers, Great George Street, London, S.W.1. Informal discussion on "Site Organisation", introduced by R. S. Read.

**Oct. 11**

Meeting of the Glasgow branch of the Contractors' Mechanical Plant Engineers, More's Hotel, Glasgow.

Glasgow Branch of the Contractors' Mechanical Plant Engineers. Meeting at More's Hotel, India Street. Speaker: Superintendent Rae of the Glasgow Police.

**Oct. 12**

Institution of Civil Engineers, Great George Street, London, S.W.1. "Some Developments in the Activated Sludge Process", by J. McNicholas.

**Oct. 17**

Institution of Civil Engineers, Great George Street, London, S.W.1. "The Narrows Bridge—Perth, Western Australia", by J. W. Baxter, E. M. Birkett and E. W. H. Gifford.

**Oct. 18**

Forty-sixth International Motor Exhibition, Earls Court, London. Oct. 18-28.

Meeting of the Reinforced Concrete Association at R.I.B.A., Portland Place, W.1. 6 p.m. "Tropical Architecture: The Development of Reinforced Concrete in West Africa," by E. Maxwell Fry, C.B.E., F.R.I.B.A.

**Oct. 19**

Annual dinner of the Institution of Mechanical Engineers, Dorchester Hotel, London.

Institution of Civil Engineers, Great George Street, London, S.W.1. Informal discussion on "Sewage Disposal at Coastal Towns", introduced by W. P. Haldane.

**Oct. 20**

Autumn meeting of the Scottish Branch of the Institution of Municipal Engineers at Stirling. Oct. 20-21.

Meeting of the Midlands branch of the Contractors' Mechanical Plant Engineers, Wilson Arms, Knowle. 7.30 p.m. "Safety Precautions on Building Contracts," by P. H. Bott, C. Bryant and Son, Ltd.

Annual dinner of the Yorkshire Federation of Building Trades Employers. Queens Hotel, Leeds.

Autumn general meeting of the Southern Counties Federation of Building Trades Employers, Connaught Rooms, London. 10.30 a.m.

Annual dinner of the Merseyside and North Wales branch of the Institution of Plant Engineers, The Blossoms, Chester.

**Oct. 24**

Institution of Civil Engineers, Great George Street, London, S.W.1. "New Premises for the North Thames Gas Board, Fulham", by A. J. Leggatt and J. Bobrowski.

**Oct. 25**

Meeting of the Institution of Mechanical Engineers, 1 Birdcage Walk, Westminster, London, S.W.1. Presidential Address.

National Conference of the Town and Country Planning Association, Church House, Westminster. "Inquiry into Planning," Oct. 25-26.

**Oct. 26**

Institution of Civil Engineers, Great George Street, London, S.W.1. Traffic Engineering Group discussion on "Practical Traffic Surveys", introduced by B. L. Allen.

**Oct. 27**

Meeting of the Birmingham branch of the Institution of Plant Engineers, Imperial Hotel, Birmingham, 7.30 p.m. "High Pressure Hot Water Heating," by P. Marshall and K. J. Luntley.

**Oct. 31**

Annual dinner of the British Road Tar Association, Grosvenor House, London.

Meeting of the London branch of the Institution of Plant Engineers, Royal Society of Arts, 7. p.m. "Tower Cranes—Their Use in Multi-storey Construction," by A. G. Stone.

Institution of Civil Engineers, Great George Street, London, S.W.1. "Western Avenue, Lagos: The Design and Construction of a Soil Cement Pavement", by C. M. Johnston.

**Nov. 1**

Annual dinner and dance of the Federation of Registered House-Builders at the Mayfair Hotel, London, W.1.

**Nov. 2**

Meeting of the London branch of the Contractors' Mechanical Plant Engineers, Hendon Way Hotel, Hendon Way, N.W.4. 7.30 p.m.

The House-Builders Conference at the Connaught Rooms, London, W.C.2.

Institution of Civil Engineers, Great George Street, London, S.W.1. Informal discussion on "Foundation Design and Construction", introduced by D. J. Henkel.

**Nov. 3**

Annual dinner of Mid-Southern branch of the Contractors' Mechanical Plant Engineers, Red Lion Hotel, Henley-on-Thames, 7.30 p.m.

**Nov. 7**

Institution of Civil Engineers, Great George Street, London, S.W.1. Presidential address by Sir George McNaughton.

Meeting of the Manchester and District branch of the Contractors Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale. 7.30 p.m.

**Nov. 8**

Meeting of the Reinforced Concrete Association at Royal Society of Arts, John Adam Street, London, W.C.2. 6 p.m. "Shrinkage and Creep in Concrete," by A. M. Neville, M.C., M.Sc.(Eng.).

**Nov. 10**

Scottish Motor Exhibition, Kelvin Hall, Glasgow. Nov. 10-18.

Dinner dance of the Yorkshire branch of the Contractor's Mechanical Plant Engineers.

**Nov. 13**

Factory Equipment, Heating, Ventilation and Thermal Insulation Exhibition, Earls Court, London. Nov. 13-18.



The 636ft. Callender-Hamilton access bridge which, as reported last week, has been erected across the River Jhelum by the West Pakistan Water and Power Development Authority for the Mangla Dam Project. The consultants: Binnie, Deacon and Gourley, M.M.Cons.E., in association with A. M. Hamilton, M.Cons.E.

Trade and Company News

# WALKING DRAGLINE HAS 40 CU. YD. BUCKET To Work South Wales Open-cast Site



The dragline at Maesgwyn site

A WALKING dragline, which cost over £900,000 and is claimed to be the biggest in Europe, is to be used by the National Coal Board in the open-cast workings at Maesgwyn Cap, Glyn Neath, South Wales. It is a Rapier W1800, made by Ransomes and Rapier, Ltd., Ipswich.

Weighing 1,800 tons, the giant machine will be operated by George Wimpey and Co., Ltd., on a contract involving the stripping of overburden to a depth of 300ft. in order to expose and recover anthracite coal.

"Bites" of up to 40 cu. yd., or 60 tons, will be taken by the bucket which is an Esco triple tapered H.D.S. bucket made by Hadfields, Ltd., at their East Hecla Works, Sheffield. With rigging, it weighs approximately 75,000lb.

The boom, which is of lattice and girder work construction in high tensile steel, is the biggest ever made in this country. It

was produced at the Thornccliffe Works of Newton Chambers and Co., Ltd.—Ransomes and Rapier being part of the Newton Chambers Group—and its basic length is 208ft. However there are two extensions which permit two operating lengths: 282ft. with a 30 cu. yd. bucket and 247ft. with a 40 cu. yd. bucket.

The radius of discharge (vertical) with the longer boom is 260ft. and with the other 230ft. Maximum allowable working load at maximum radius is 65 tons with the longer boom or 91 tons with the shorter boom. Dump heights are 130ft. and 100ft. respectively.

Being of the cantilever type the boom is suspended in operating position by means of a structural steel suspension member connecting the apex of the boom to the gantry head. Derrick ropes and derricking gear are provided only for raising and lowering the boom and do not carry any load during the normal operation of the machine.

While digging, the W1800 sits on its circular base, which has an area of 2,380 sq. ft. and when it is required to move as work proceeds, or from one part of the site to another, it does so through the operation of a walking mechanism for which Ransomes and Rapier hold the patents.

On each side of the excavator there is a great rectangular walking "shoe" attached to a leg structure. The walking operation is carried out by placing the shoes on the ground and lifting the entire machine forward so that by means of the eccentric on which each leg is mounted it moves across the ground, taking 7ft. 7in. walking strides.

The base structure of the machine is 55ft. in diameter and is built-up of rolled steel plates and sections which give the necessary strength and rigidity for digging and walking duties.

The rotate frame is made up of rolled steel plates and flats welded to form four full-length longitudinal girders 14ft. deep into which are built the circular girders for carrying the roller path which is made of special nickel chrome molybdenum cast steel segments of bridge type rail section. The roller circle consists of a 48ft. diameter live ring made up of 125 alloy steel taper rollers mounted in a structural frame.

Other remarkable facts about the Rapier W1800 are that it has eight 300 h.p. motors, four of them for hoist and four for drag; also four 225 h.p. "walk" motors and four more 225 h.p. "swing" motors. The machinery house is most impressive. It has a crane gantry on which runs an electric overhead crane with two 10-ton grabs. These are for maintenance purposes and can handle all machinery. A welding set operating on 440 volts three-phase supply and capable of 200 amps. continuous and 300 amps. intermittent hand welding service is provided for maintenance and for emergency repairs.

The entire machine is designed with a view to ease of handling and speed of operation, being entirely electrically driven with Ward-Leonard Amplidyne control. In sole control of the movements while digging and walking is one driver—operating from either of two glass-fronted control cabins, one in each side of the superstructure. The driver uses one or other of the cabins according to the view he

(Concluded on next page)



Close-up view showing the two drivers' cabins

## Trade and Company News

## BRITISH STANDARDS

THE use of compressed air grows each year as more and more applications are found for it. To help this growth, the British Standards Institution has revised and enlarged B.S. 1123 (B.S. 1123 : 1961), giving specifications for safety valves, gauges and other safety fittings for air receivers and compressed air installations.

Although the main provisions of the standard remain unchanged, modifications have been made to secure co-ordination with the 1955 edition of revised B.S. 759—"Valves, gauges, and other safety fittings for application to land boilers and piping installations for and in connection with land boilers." The most important of these modifications is the permissible use of safety valves having an established discharge greater than provided for by the minimum aggregate area formula.

The revision also includes a comprehensive specification covering the requirements for safety valve springs. Price 4s. each.

## "Guaranteed Minimum" Reckoners

The adoption by the building industry of the 42-hour week in place of the 44-hour week—to take effect from October 2, 1961—has necessitated the revision of the British Standard "guaranteed minimum" reckoners (B.S. 1151 : part 2 : 1961).

These reckoners facilitate the calculation of the formula  $GM = WHA \times 36/NH$  where  $GM$  = number of hours "guaranteed,"  $WHA$  = working hours available and  $NH$  = normal hours laid down in the working rule agreements. Price 5s. each.

## Cable Covers, Concrete and Earthenware (B.S.2484 : 1961)

Advances in the technique of cable laying whereby several single bore cables are laid side by side in preference to the use of a multicore cable, have necessitated the use of wider cable covers, as it is not entirely satisfactory to lay narrow ones side by side.

To meet the needs of these new methods, B.S. 2484 has been revised (B.S. 2484:1961) to include wider covers in the range. At the same time a shorter length of cover has been introduced to provide for the modern practice of negotiating curves and bends by short length straight covers in preference to using radius covers as this simplifies both ordering and stock keeping.

Account has also been taken of the results of a research programme carried out

by the Central Electricity Generating Board into the incorporation of raw pulverised fuel ash in concrete mixes by allowing for a proportion of this 'flyash' to be used in concrete covers with the consent of the purchaser. At present there is no British Standard for this material, but its preparation has been authorised. Price 6s. each.

## Red Lead for Paints and Jointing Compounds

Keeping up to date with the changing needs of the paint and building industries, the British Standards Institution has revised B.S.217 which deals with red lead for paints and jointing compounds.

The revision (B.S.217:1961) has resulted mainly in the fixing of an upper limit for the content of ordinary red lead for paints, and the raising of the minimum content of the non-setting variety.

The standard specifies materials, composition, non-setting properties, residue on sieve, oil absorption, value, colour, matter soluble in water, and matter volatile at 100 deg. C. Sampling and methods of testing are also described. Price 5s. each.

## Roofing Felts (Bitumen and Fluxed Pitch)

A complete revision of B.S.747, "Roofing felts (bitumen and fluxed pitch)," has just been published. The new standard (B.S.747:1961) describes the process of manufacturing each of the five named classes of felt and the characteristics and appearance of each type of felt. The precise uses for which each felt is intended are listed.

The specification lays down the composition of each type of felt and the properties of the constituent materials, setting limits (for the first time) to the weights of these materials. The procedure is given for the sampling of felts and the obtaining of specimens for testing; methods of determining the weights of constituent materials are specified (also for the first time).

An appendix refers to subsidiary uses of felts and gives notes on the selection and laying of felts for built-up felt roofing (based on portions of B.S. Code of Practice C.P.144:101, "Bitumen felt roof coverings"). Price 7s. 6d. each.

Copies of these British Standards may be obtained from the British Standards Institution, Sales Branch, 2 Park Street, London, W.1.

## ALKALI-RESISTANT PAINT FOR MASONRY SURFACES

A CHEMICALLY resistant paint, trade name Kolorplas, which gives a matt finish to masonry surfaces, is being manufactured by the developers, Henry Matthews and Co., Ltd., of Bristol.

Incorporating a synthetic rubber resin, Phiolite S-5, which forms a good medium for the binding of pigments and conveyance onto a surface, the paint is non-toxic and chemically inert. It is therefore highly resistant to attack by alkalis, present in cement-containing construction materials, industrial acids, gases, moisture, mould growth, grease and radiation. Despite having water repellent properties, the paint permits internal moisture to escape.

Good finishes can be obtained with this paint on concrete, stucco, hot plaster, porous brick, asbestos board, cement and other surfaces. It can be applied in most weathers, drying in 1½ to 2 hours, and has good adhesion. Normal brush application is two coats, but the paint can be sprayed after thinning with 10-15 per cent. Kolorplas thinner.

The paint is supplied as a white base

which can be tinted to at least 64 different pastel shades using eight basic tints. The quantity of tint added per gallon gives the depth of shade required.

Kolorplas will be distributed through the normal wholesale and retail channels in 5-gallon, 1-gallon, ½-gallon and quart tins.

## DIRECT-DRIVE CHAIN SAW

Direct drive has been incorporated in a new power chain saw, the D77, produced by Teles Smith, Ltd., 8 South Wharf, London, W.2. This gives an extremely fast chain speed, utilising the full force of the Aspera 3½ h.p. engine.

The complete saw weighs 25lb. Trees can be cut flush to the ground, and the diaphragm-type carburettor allows the saw to be used at any angle. An automatic centrifugal clutch stops the chain when the engine idles and starts it again immediately the throttle is opened. There are three sizes of the D77, giving a cutting length of 14in., 18in. or 22in.

## AUTOMATIC BLOCK-MAKING MACHINERY

THE Cornelly Equipment Co., Ltd., 39 Victoria Street, London, S.W.1, have been appointed European distributors of the fully automatic block-making machinery made by the Clanton Corporation of U.S.A.

The range includes fully automatic block-making machines with up to 12 operating cycles per minute, giving up to 36 8in. blocks per minute. To cope with these outputs a fully automatic off-bearer and rack loader, an automatic rack unloader restacking conveyor and pallet return, and an automatic cubing machine are offered.

The Clanton Auto Block is suitable for the production of masonry units, screen block and other decorative items. A large number of standard mould designs are available. The equipment is sold in unit form so that a completely automatic factory can be built-up step by step.

## ALLIED IRONFOUNDERS REORGANISATION

Allied Ironfounders, Ltd., are to take steps to halt the duplication of administrative work involved in the running of their 30-odd subsidiary companies.

As from April 1, 1962, Allied Ironfounders will become an operating company and the subsidiary companies will be wound up, with the exception of overseas companies and U.K. companies in which there are outside minority interests. The descriptive titles of the works will be such as to retain the old associations.

## ADHESIVE TO STICK POLYSTYRENE

The Industrial Adhesives Division of Evode, Ltd., Common Road, Stafford, have developed a new adhesive, Evo-Stik Impact adhesive SL 863, for bonding expanded polystyrene to wall and ceiling surfaces. The material is easy to apply and provides an immediate strong bond on contact by hand pressure. One gallon is sufficient to coat about 8-10 sq. yd. of polystyrene foam. The price is 21s. 6d. a gallon.

(Concluded from previous page)

prefers as he is slewing the giant boom one way or another.

There are identical control consoles in these cabins each containing master controllers for the hoist, drag/swing and walk motors as well as the necessary control switches for the operation of the excavator. Windowscreen wipers keep visibility clear and the cabins are heated as required for the comfort of the driver.

Between the two cabins a gallery extends around the front circular girder of the superstructure and from this gallery—rather like a captain's bridge on a liner—a clear and uninterrupted view of all the digging and hoisting operations can be obtained.

## Erection on Site

Erection of the machine on the site at Glyn Neath was done by the Outside Erection Department of Newton Chambers and Co., Ltd. The first task was to prepare a plateau of solid ground and the first erections which followed were of a workshop, canteen and drying rooms.

The area is notorious for heavy rainfall and the site was three miles from the nearest village down in the valley. For some distance up the mountain side there was a fairly good, though rough, road that had to be extended in order to accommodate the vehicles carrying the heavy parts of the walking dragline from the works at Ipswich and Thorncliffe.

The heaviest load was 45 tons and when this got stuck halfway up the twisting road, along the mountain side, six lorries had to help in the hauling while men threw grit under the wheels of the vehicles. Some 40 men were employed on the erection, and the work took over a year. In the winter months when daylight was short arc lights were installed to allow operations to go on after dark.



## Trade and Company News

MACHINE GROOVING OF RUNWAYS AIDS  
AIRCRAFT LANDING

TO make landing safer for modern large aircraft, the Ministry of Aviation and the Air Ministry have been investigating methods of cutting grooves at close intervals in runways to increase aircraft braking efficiency.

Trials were carried out by the Air Ministry under contract conditions at Wittering Airfield to see whether improvements could be made to the method of grooving by means of machines using a flailing action which had hitherto been adopted.

Several machines were tested including the British-made Clipper Consawmatic which proved the most satisfactory. This sawed the grooves through the runway surface instead of beating them in by a flailing action. Thus the surface was in no way damaged or weakened, and the aggregate in the concrete or asphalt was undisturbed. The grooves were much firmer and able to resist damage from wear and weather which had previously been apparent on runways where the flailing method had been used.

Resulting from the conclusions drawn from the Wittering trials, the Air Ministry invited tenders for grooving the runway at Farnborough before the annual show. The contract was awarded to T. C. Stewart (Contractors), Ltd., Bury St. Edmunds, Suffolk, who submitted the lowest tender based on the use of a modified Consawmatic concrete saw.

The area to be grooved on the Farnborough main runway amounted to 870,000 sq. ft., into which grooves  $\frac{1}{4}$  in. wide by  $\frac{1}{4}$  in. deep and 1 in. apart had to be sawn totalling 1,980 miles of grooves and this task had to be carried out within three weeks,

entirely at night and at weekends so that the runway could be used for flying during the day. The whole contract was in fact completed in 18 days using six self-



Clipper Consawmatic machine

propelled grooving machines each having 12 specially reinforced silicon carbide blades which enabled 12 grooves to be sawn by each machine at a time.

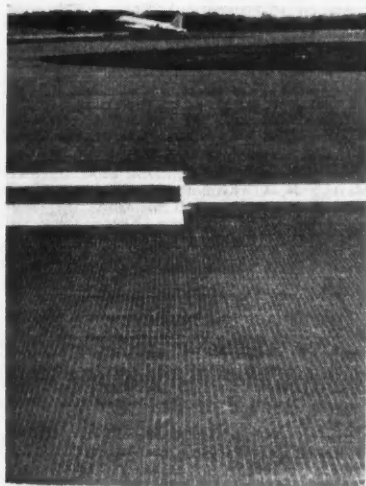
It is too early for the official results of this grooving to be known, but it is understood that the grooving conformed entirely with the Air Ministry specification and is considered to be very satisfactory. Further flying tests have yet to be made, but it is believed that the grooving will have the following effects.

**Braking**—Faster and larger aircraft will be able to land and take off with safety because of the additional grip given to the tyres.

**Aqua planing**—Reduction or elimination of aqua planing because the grooving will assist in breaking up and draining surface water.

**Drainage**—Reduction or elimination of surface water and film because the grooving will assist in the drainage of standing water. To assist further in the development of this factor the grooves could be cut deeper if required, and could be deeper towards the sides of the runway thus making a slight drainage slope at the bottom of the grooves.

The techniques of surface grooving can be applied to roads to give extra tyre grip on bends and corners, and also to give warning of such hazards for there is a distinct change in "tyre noise" whilst passing over a grooved area although, due to the spacing of the grooves, no vibration is felt.



Section of runway after grooving

PLANT SHOW AND  
DEMONSTRATION

The plant show and demonstration organised by the North West branch of the Contractors' Mechanical Plant Engineers in conjunction with the Territorial Army opens tomorrow, Friday, September 29, at the Territorial Army Centre, Tramway Road, Aigburth, Liverpool, 17. The two-day event will be officially opened at 10.30 a.m. by Sir Robert Lloyd, O.B.E.

There will be approximately 30 stands but many of these will show machines and equipment of two or more manufacturers. Machines will also be working on the proving grounds.

Refreshments will be available and there are good car parking facilities.

A.E.C. ENGINE IN DODGE  
NINE-TONNERS

The nine-ton series of Kew Dodge trucks made by Dodge Bros. (Britain), Ltd., Kew, Surrey, is now offered with the A.E.C. 410 cu. in. direct injection diesel engine.

This six-cylinder engine provides 300lb./ft. torque and maximum net power of 113 b.h.p. at 2,200 r.p.m. All trucks in the nine-ton series are fitted as standard with an extra duty five-speed gearbox and a two-speed rear axle. Wheelbase length of 116 $\frac{1}{2}$  in., 163 in., and 213 in. are available.

The office of A.E.I. Lamp and Lighting Co., Ltd., at 17 Grosvenor Street, Cheltenham, has moved to Merchants Road, Gloucester. Tel.: Gloucester 27663/4.

IODINE LAMPS GIVE SMALLER  
AND CHEAPER FITTINGS

THE Osram Lamp Division of G.E.C. are about to market the first of a range of miniature iodine lamps, which they claim have longer life and provide cheaper light than existing fittings.

First applications of the new principle are for floodlighting or for use in some form of projection system. A demonstration of the new lamp has been installed at Luton Airport in a glide approach indicator system, where 96 lamps of 6.6 amp. 200 watt are in use. They are said to give 15 per cent. more light than the lamps in standard use on airfields and to have 2 $\frac{1}{2}$  times the life. In this instance, to enable the lamps to be used immediately in the existing installation, they were enclosed in a conventional bulb with the standard fitting. This type is now on sale.

With specially designed fittings the iodine lamp with its extremely small size and robust construction in quartz is well suited for integration into ground installations.

The second form of iodine lamp in development is a tubular filament in 500, 1,000 and 1,500 wattage for floodlighting and for industrial and arena lighting. This is designed to give 15 per cent. more light than its conventional equivalent.

The 1,500 watt lamp is only 9 in. long and  $\frac{1}{4}$  in. diameter. Fittings could be correspondingly smaller and lighter, but this form can be readily adapted to present standard fittings.

A third form of iodine lamp is being developed—a 100 watt projector lamp no bigger than the tiny lights used on Christmas trees. It is intended for 8mm. cine-projectors and will enable manufacturers to design smaller and optically more efficient apparatus.

## IMPROVED COPPER ROOFING

Copper roofing in an improved form, combining the appearance of a traditional copper roof with the waterproofing qualities and adaptability of built-up roofing, has been introduced by The Ruberoid Co., Ltd., 1-19 New Oxford Street, London, W.C.1.

The roofing is manufactured from 42-gauge copper sheet with spherical indentations and a backing of filled bitumen. The exclusive design of indentations has been achieved by Ruberoid without inducing stress points in the copper. It has a wave form in every direction, allowing more efficiently for expansion and contraction, and reducing the effect on the copper of any movement of the substructure.

The original composition of the material necessitated production in sheet form, and packaging in crates for overseas despatch. The new method of manufacture, however, allows for roll packing, which facilitates transportation.

Ruberoid copper roofing state the manufacturers, is bonded to the substructure with all joints and seams full sealed, avoiding reliance on mechanical seams. Work hardening cannot occur, as the material is sufficiently pliable to be worked by hand. Since the whole area is fully bonded, the danger of wind drumming is eliminated.

It can be fixed to any shape or type of substructure to which built-up roofing can be applied, without need for special fixing battens countersunk into non-available surfaces. No drips or steps are required, even down to a minimum fall of 2 in. in 10 ft. (1 deg.).

## MOULD LOCK FOR CASTING

Allan Levin, Ltd., 21 Mackenzie Street, Slough, Bucks., are importing from Sweden a new mould lock for concrete casting. This consists of a steel plate, 3 in. x 3 in. The tie rod is thrust through a central hole and is firmly held at any point by a robust spring mechanism.

Adjustment to the right position is made by special pliers which are also used for dismantling. The locks cost 4s. 6d. a pair.

## Trade and Company News

## NEW COMPANIES

The undermentioned particulars of new companies recently registered are taken from the daily register compiled by Jordan and Sons, Ltd., company registration agents, 116 Chancery Lane, London, W.C.2:—

George Gilbert and Sons, Ltd., paving and kerb-dressing contractors. £1,000. Directors: George G. Gilbert and Gordon W. Gilbert. "Sherwood," Lesons Hill, Chislehurst, Kent. Guncrete Engineering Co., Ltd., 49a Rectory Grove, S.W.4, cement, etc. £100. Directors: Edward S. W. Sayer, 172 The Glade, Shirley, Croydon, Surrey; Norman High, 48 Addison Court Road, Croydon.

D. J. Baird and Sons, Ltd., 11 Peter Street, Manchester, 2, builders. £100. Directors: Donald J. Baird and Dorothy Baird, 12 Troughton Crescent, Blackpool.

W. F. Button and Son, Ltd., St. Albans Road, Watford, Herts., demolition contractors. £500. Directors: Walter F. Button, 200 Prestwick Road, South Oxhey, Watford, Herts.; Ronald W. Button, 24 Oulton Way, South Oxhey, Watford, Herts.; Mrs. Lillian V. Button and Mrs. Pauline O. M. Button.

Tayban (Precast), Ltd., Holmefield Works, Garstang Road, Pilling, Lancs., concrete block manufacturers. £5,000. Directors: John Banks, 317 Manchester Road, Blackrod; Tom Taylor, 85 Harpers Lane, Bolton.

Renstone Constructors, Ltd., 30 Ship Street, Brighton, builders. £100. Directors: Anthony G. Wiles, 23 Balsean Road, Woodingdean, Brighton, 7; George L. Leach, 10 Brangwyn Crescent, Brighton; A. E. Allwright.

I. Storey and Co., Ltd., 16 Church Hill Avenue, Mansfield Woodhouse, civil engineering. £1,000. Directors: Ian Storey, 16 Church Hill Avenue, Mansfield Woodhouse; Roy Buckland, 45 Ashover Road, Old Tupton, Chesterfield; Harold Goodman.

D. S. Harrison (Contractors), Ltd., Thornbury, Lympstone, near Exmouth, civil engineering contractors. £5,000. Directors: David S. Harrison and Dorothy Harrison, Thornbury, Lympstone, near Exmouth.

G. N. and T. Building, Ltd., 1 St. Ann's Road, Harrow, Middx., builders. £200. Permanent directors: John Gwynne, 24 Pelham Road, Gravesend, Kent; Frank H. Nichols, 12 Railway Street, Northfleet, Kent; Wm. E. Tarbotton, 94 Pinner View, Harrow, Middx.

A. D. Primrose, Ltd., Stork Joinery Works, Halliwell Road, Bolton, builders. £100. Directors: Mrs. Alice Primrose, 353 Moss Bank Way, Bolton; Frank R. Yardley, "Brackenburn," Chorley Old Road, Horwich.

L. E. Bird and Son, Ltd., Midland Bank Chambers, Letchworth, Herts., builders. £2,000. Directors: Leslie E. Bird and Mrs. M. L. Bird, 109 Norton Road, Letchworth.

R. Melville and Sons, Ltd., Pontypridd, Glam., builders. £1,500. Directors not named. Subscribers: Ronald A. Bowman, 174 New Bond Street, W.1 (accountant); Kay A. Newstead, 92 Dollis Hill Avenue, N.W.2 (secretary).

Townsend Construction Co., Ltd., 2 Queens Road, Coventry, builders. £100.

Directors: Roland B. Wickenden, The Elms, Marton, near Rugby; John J. Heffron, 153 Chevalier Avenue, Coventry.

Walby and Sage (Roads), Ltd., Coronation Works, Coronation Road, Gilfach Gock, near Porth, Glam., builders and public works contractors. £2,500. Directors: Kenneth J. G. Walby, 4 Heol Aneurin, Tonyrefail, Porth, Glam.; William J. Sage, 3 Tylcha Bungalows, Tonyrefail; Geraint Jenkins, Mrs. Betty L. Jenkins and David A. Jenkins.

Harry Thomas and Sons (Contractors), Ltd., 59 Eversley Road, Sketty, Swansea, builders. £1,000. Directors: Henry Thomas and Mrs. Marjorie D. Thomas, 304 Oystermouth Road, Swansea.

R. J. Collins (Builders), Ltd., 88 London Road, Southend-on-Sea, Essex. £100. Directors: Reginald J. Collins and Mrs. Irene E. Collins, 28 Rochford Garden Way, Wickford, Essex.

Quality Building (Littlehampton), Ltd., 37 The Broadway, Stanmore, Middx. £100. Directors: Arnold E. Cox, 26 Elmfield Road, Chingford, Essex; Alfred H. Waring, Landaras, Royston Grove, Hatch End, Middx.

L.J. Builders, Ltd., builders. £100. Directors: Leonard J. Birch, 333 Harlesden Road, Willesden, N.W.10; Louis Trackman, 157 Watford Road, Harrow, Middx.

Armstrong and Moore (Builders), Ltd., 21 Eastgate Row (North), Chester. £6,000. Directors: John Armstrong, 31 Stanley Road, New Ferry; Alan Moore, 95 Gawsorth Road, Ellesmere Port.

Kimjawl Construction Co., Ltd., 48-50 Uxbridge Road, Ealing, W.5, builders. £100. Directors: Wm. F. Knocke, 32 Marion Close, Hayes, Middx.; Leslie A. Bishop, 11 Regina Road, Southall; John E. L. Bromham, Joyce A. Knocke and Ivy H. Bishop.

Kneller Building Co., Ltd. £100. Directors: Leslie K. Smart, 6 Green Lane, Shepperton, Middx.; Mrs. June K. Frost, 13 Fortescue Road, Weybridge, Surrey; Arthur M. Wright, Willow House, Russell Road, Shepperton, Middx.

Louis C. Fisher (Builders), Ltd., The Armoury, 46 Eastgate, Cowbridge. £5,000. Directors: Louis C. Fisher, Springfields, Bungalows, Sigginstone, Glam.; Elma S. Fisher and John S. Fisher, Malt House, Sigginstone, Glam.

Fiske (Bigbury-on-Sea), Ltd., builders. £100. Director: Ronald Fiske, Viewpoint, Bigbury-on-Sea, South Devon (permanent managing director).

Building and Construction Waterproofing Co., Ltd., 34 Hanover Street, Leeds, 3. £500. Directors: Norman G. Crouch and Mrs. Joyce M. Crouch, 25 Hodgson Avenue, Leeds, 17.

Dargun, Ltd., 47 Castle Grove, Oldswinford, Stourbridge, public works contractors. £100. Directors: Derick B. Gunnell, 47 Castle Grove, Oldswinford, Stourbridge, Wores.; Ernest Betteridge, Aden, Northfield Road, Netherton, Dudley; Geoffrey Cook.

Wittcock Contractors, Ltd., £1,000. Directors: George A. Hewitt, Pedlars, Mark Cross,

Sussex; David G. Hancock, 5 Brabourne Rise, Beckenham, Kent.

Waldon Contractors, Ltd., builders. £100. Directors to be appointed by subscribers. Subscribers: Gordon D. Walters, 180 Grieson Road, S.E.23; Stanley E. Condon, 34 Campden Road, South Croydon, Surrey (clerk).

Hill-Stokor (Builders), Ltd., 136 Bute Street, Cardiff. £100. Directors: David W. Howell and Mrs. Kate O. Howell, 87 Minehead Avenue, Sully, Glam.

Gilbert and Whitby (Builders), Ltd., The Anchorage, Harwich Road, Beaumont, near Clacton-on-Sea. £500. Directors: Victor G. Gilbert, Olcote, Lodge Fields, Little Oakley, near Harwich; Alfred J. Whitby, The Anchorage, Harwich Road, Beaumont, near Clacton-on-Sea.

Michael Sparks, Ltd., builders. £2,000. Directors: Ian M. Sparks and Mrs. Olive M. Sparks, Rosalind House, Westhorpe Road, Marlow, Bucks.

South Ockendon Building Co., Ltd. £100. Director: Leslie G. Tully, The Coach House, Church Lane, North Ockendon. Subscribers: Patrick H. Harrison, 97 Digby Road, Corringham, Essex; Louis A. E. Kemp, 63 Billet Lane, Stanford-le-Hope, Essex.

Fulham Building and Maintenance Co., Ltd., 176 Lots Road, S.W.10. £500. Directors to be appointed by subscribers. Directors: Shirley Hart and Averill Hart, Imperial House, Kingsway, W.C.2.

Bluways Builders, Ltd., 18 High Road, North Weald, Essex. £100. Director: Leonard H. Pike, 3 High Road, North Weald, Essex.

Sothcott and Williams, Ltd., 30a Milesipit Hill, Mill Hill, N.W.7, builders. £100. Directors: Thomas R. Sothcott, 1 Northway Court, Mill Hill, N.W.7; Stewart O. Williams, 30a Milesipit Hill, Mill Hill, N.W.7.

Henry Dean and Son, Ltd., 1 Stanley Street, Accrington, builders. £2,000. Directors: Henry Dean and Mary Dean, 9 Christchurch Street, Accrington; John Dean, 45 Arncliffe Avenue, Accrington.

Rock Construction, Ltd., 27 Queen Anne Street, W.1, builders. £100. Directors: Wm. S. Shepherd and Betty H. Shepherd, 77 George Street, W.1.

Smith Bros. (Cranfield), Ltd., 147 Blechley Road, Blechley, builders. £200. Permanent directors: Don Moseley, 21 Drayton Road, Blechley; Basil H. Smith, Dauphin House, Blechley Park Gardens, Blechley.

Brench (Construction), Ltd., public works contractors. £500. David Brench, 58 Mill Road, West Drayton, Middx., signs as director. Subscriber: Derek A. H. Brench, 156 Rowan Road, West Drayton, Middx.

Watt-Tyler (Builders), Ltd. £1,000. Directors: Arthur A. Smith, 1 Izane Road, Bexleyheath, Kent; Morag Exeter, 9 Christchurch Road, Sidcup, Kent; Florence M. Smith and Kenneth J. Exeter.

M. Kinnett, Ltd., builders. £100. Directors: Mervyn N. C. Kinnett, 10 Blackhorse Road, Sidcup, Kent; Winifred M. Quirk, 68 Priestlands Park Road, Sidcup, Kent.

Nox, Ltd., builders. £50,000. Directors to be appointed by subscribers. Subscribers: June Silver, 25 Dove Lane, Potters Bar, Middx.; Janet Ross, 151 Belvue Close, Northolt, Middx. (secretaries).

Clifford Hale and Associates, Ltd., 87 The Parade, Watford, Herts, builders and contractors. £100. Directors: Clifford Hale, 19 Bedford Road, Moor Park, Northwood, Middx.; Mrs. Eileen P. McIndoe, The White Cottage, South Approach, Moor Park, Northwood.

Stirton Partners (North Finchley), Ltd., 871 High Road, North Finchley, N.12, builders. £100. Directors: Arthur Stirton, 112 Chandos Avenue, Whetstone, N.20; Francis W. J. Grundy, Seymour House, Thornhaugh, Peterborough.

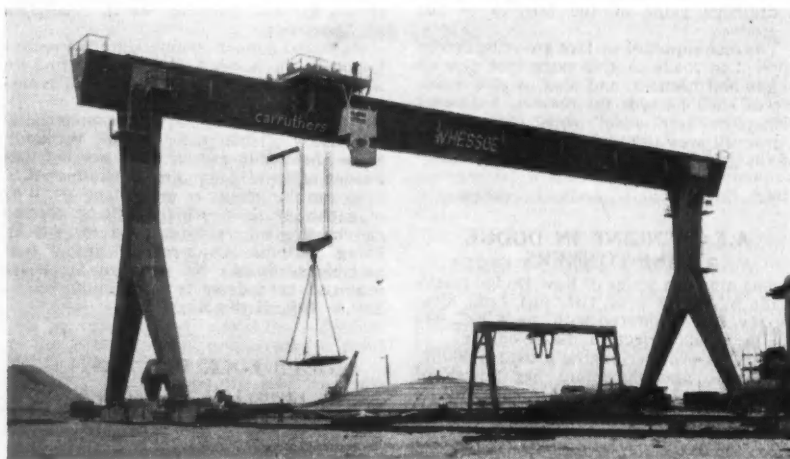
R. B. Hargill (Constructors), Ltd., builders. £1,000. Directors: Ronald B. Hargill and Mrs. Florence Hargill, 23 Moxon Grove, Newton Hill, near Wakefield.

Gordon Rushton (Builders), Ltd., 71 Dudley Street, West Bromwich. £2,000. Directors: Winifred E. Rushton, 13 Dagger Lane, West Bromwich; Howard Hill, 71 Dudley Street, West Bromwich.

Monkseaton Builders Ltd., Garage 7, Back Coquet Avenue, Whitley Bay, Northumberland. £100. Directors: Sydney J. Johnson and Jessie Johnson, 145 Cauldwell Lane, Mankeaton.

Dixon and Nice (Builders), Ltd., Marsh House Avenue, Billingham, Co. Durham. £6,000. Permanent managing directors: Brian Dixon, 2 Beamish Road, Billingham; William Nice, 41 Stavordale Road, Stockton-on-Tees.

John Lyons (Earthmoving), Ltd., dealers in earthmoving machines, etc. £100. Directors: John D. Lyons and Mrs. E. M. Lyons, The Cottage, The Walled Garden, Shoreham, near Sevenoaks, Kent.



This new Goliath crane has been built by J. H. Carruthers and Co., Ltd., of East Kilbride, for Whessoe, Ltd., a member of the Nuclear Power Group. The crane, which has a capacity of 40 tons and a span of 200ft., was recently installed on the site of the Dungeness Nuclear Power Station and will be used during the construction of the two reactor pressure vessels. It has a 65ft. height of lift and is notable for the use of a triangle section welded box girder.



**Trade and Company News****NOVEL FEATURES IN NEW INTERNATIONAL HARVESTER RESEARCH TRACTOR**

**H**YDROSTATIC transmission, a gas turbine engine and a fibreglass body are embodied in a new research tractor under development by the International Harvester Co., in the United States.

With these features, the HT-340, as it is called, is without gear lever, throttle, transmission gears, brake or clutch pedals, and uses neither cooling water nor anti-freeze. Its oil consumption is said to be almost nil, it will operate on virtually any kind of liquid fuel, and its forward and reverse speeds are infinitely variable.

The gas turbine, an 80-h.p., single-shaft Titan T62T, is a product of the Solar Aircraft Co., an IH subsidiary. It is 21in. long, less than 13in. in diameter and weighs only 90lb. with reduction gearing. Originally designed for aircraft propulsion among other things, the engine is one of the smallest gas turbines ever built for this purpose.

The HT-340 can, at present, use only about half of the turbine's rated horsepower since the transmission was designed to operate with a 40-h.p. piston engine. Gearing reduces speed of the turbine's output shaft to 2,000 r.p.m. But in a ground vehicle, a constant-speed turbine is particularly well-matched with a hydrostatic transmission to provide speed variation.

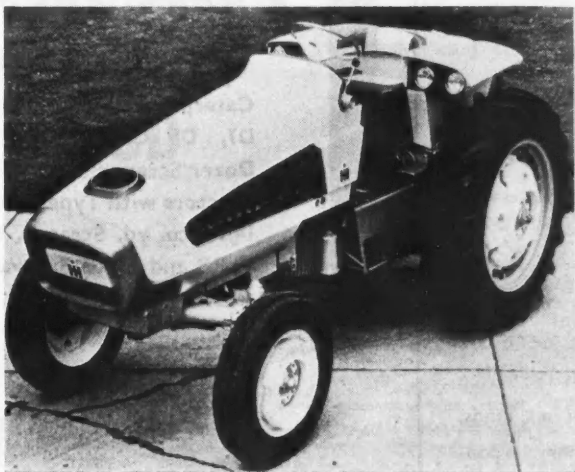
Similar in basic principle to other gas turbines, the Solar Titan draws in air, compresses it and then mixes it with fuel in a combustion chamber. Hot gases produced from ignition of the air-fuel mixture spin a vane turbine wheel. The engine in the HT-340 has a single turbine that turns the output shaft directly, producing constant engine speed.

The hydrostatic transmission system depends on oil at high pressure to transmit power by acting on the pistons of a radial hydraulic motor installed in each driving wheel. Thus the turbine engine's power

operates the variable displacement pump which energises the transmission.

To start, the operator merely pushes a button, and an automatic sequence box takes over to connect the starter and energise solenoids. After that, except for steering, he is concerned with only one control, the transmission lever, to change forward and reverse speeds and to stop. The hydrostatic tractor has excellent torque characteristics and response to its transmission control is immediate and solid throughout its speed range.

Based on a low, forward-sloping hood line, the design of the fibreglass body provides excellent visibility for the operator



The research tractor

as does the placing of the fuel tank behind the operator. Since the tractor requires few controls, the operator's compartment is unusually accessible and free of obstructions.

The International Harvester Co. state: "Much research must yet be completed with heat-resistant materials and precise production methods before the gas turbine can become a competitive, commercial power source for a tractor. Currently, low volume production of components for the turbine, as well as for the hydrostatic transmission, would place the price of a tractor like the HT-340 far beyond reach of the average customer. But interest is running high, and beyond a doubt, the problems will be solved."

**TRANSISTORISED THICKNESS GAUGE**

Designed to measure thickness from one side, a new transistorised ultrasonic thickness gauge, the Type 1103, has been added to the range of instruments of Dawe Instruments, Ltd., Harlequin Avenue, Great West Road, Brentford, Middx.

With a range of 0.09in. to 5in., the device features compact lightweight design for portability and a direct reading scale. It is permanently calibrated to read thickness of either steel, aluminium or copper at the turn of a switch and there is provision for simple calibration to cover many other materials.

Both visible and audible resonance indications are provided and the operation of the instrument is simple.

Other materials, including most metals, glass, plastics and ceramics can be tested by using the undesignated switch position and calibrating on a known thickness of the material.

**PILLINGER PRESSURE JET OIL BURNER**

G. C. Pillinger and Co., Ltd., 602 Purley Way, Croydon, announce the addition of the Model "602" to their range of pressure jet oil burners.

The "602" is a fully automatic burner, rated from 60,000 to 170,000 B.Th.U./hour using 35/45 seconds viscosity gas oil (Redwood No. 1 at 100 degrees F.). Principal considerations in the design are simplicity and easy maintenance.

The burner is mounted on the boiler front plate by means of only two studs, and inspection and cleaning is carried out without breaking the oil or electrical connections. The ignition transformer is sealed in a pressed steel case mounted on the cast aluminium casing of the burner, and the fuel pump incorporates a cut-off valve. The totally enclosed 1,425 r.p.m. motor is suitable for a 230v. single phase 50 cycle supply.

**ATLAS COPCO CUSTOMER CONFERENCE IN GLASGOW**

**C**ONTINUING their series of customer conferences on the two new rock drilling methods their group has evolved, Atlas Copco (Great Britain), Ltd., recently entertained Scottish civil engineers, consulting engineers and representatives of the North of Scotland Hydro-Electric Board at the Grand Hotel, Glasgow.

An audience of over 50 heard Mr. John Harrison, Atlas G.B. managing director, talk on ladder drilling, and Mr. Peter Hayward, manager of the company's rock drill section, on overburden drilling. Both subjects were illustrated by films, one of which featured ladder drilling in the Inverawe hydro-electric tunnel which George Wimpey and Co., Ltd., are constructing for the North of Scotland Hydro-Electric Board.

**ADAPTOR FOR SCAFFOLD COUPLERS**

Production will start shortly by Boulton Scaffolding, Ltd., 65 Putney Bridge Road, London, S.W.15, on a patented accessory for converting the firm's standard scaffold couplers for universal application with either standard scaffold tube, the various types of unit and unit frame scaffolding systems and 1.690 o.d. tube as used in the North American market. Called the Chairliner, the product is of half-round section and designed for captive insertion in either or both sides of a standard scaffolding coupler body without distortion, so that two of the same or different diameter tubes may be positively and simultaneously gripped. The Chairliner is available for double, putlog and swivel couplers, priced at 9d. each in sherardised finish.

**WHEEL BARROW SPREADS MATERIAL**

Machinery (Continental), Ltd., 42 Park Street, London, W.1, have introduced into this country a wheel barrow which will also act as a spreader for material such as sand, salt or gravel.

Conversion to a spreader is made by simply moving a flap in the base which allows a controlled flow of material to fall on to a revolving spreading disc above the barrow's wheel which drives it. The faster the operator wheels the barrow, the faster the disc revolves and the farther the material is ejected.

**MORE "BITE" IN THE SMITH '21'**

Thomas Smith and Sons (Rodley), Ltd., have introduced a new Auto-Positive Dual Crowd System on their '21' Excavators, which has the effect of providing additional "biting" power with marked simplification of the control.

The hoist rope is spooled on the compensating drum to give automatic crowd action and the new system, it is stated, incorporates all the advantages of both the automatic rope crowd and the orthodox positive crowd systems. There is single-lever control of the shovel bucket with automatic crowding action and positive crowd action of the bucket arms in all positions. The hoist rope compensation allows "in line" crowding and dual-crowd action can be applied when necessary.

**NON-SLIP FLOOR TILE**

A new floor tile product is to be marketed under the name of Griptite by Jaconello, Ltd., Trading Estate, West Molesey, Surrey. It is an hydraulically pressed non-slip tile with high abrasive resistance, designed for use in schools, industry and hospitals.

Measuring 12in. by 12in. by 1in. thick, the tile is also produced with fat resisting cements for use in canteens and kitchens.



## VISIT

**THE  
BUILDING  
EXHIBITION**

Olympia, London, 15th-29th November, 1961

**Mondays, Wednesdays, Saturdays**  
10 a.m. — 6 p.m.

**Tuesdays, Thursdays, Fridays**  
10 a.m. — 8 p.m.



Arrange a works outing to see this exhibition where all sides of the building industry are on show: building materials, heating of all kinds, contractors' plant and building machinery, wood-working machinery, lighting fittings, painting and decorating equipment and international exhibits.



Special party visits are easily arranged through British Railways and the Organisers offer special ticket reductions and facilities for groups.



Apply in writing to:-

**The Building Exhibition,  
(Room G4),  
11 Manchester Square,  
LONDON, W.1**



# FOR HIRE

Caterpillar Traxcavators, D4, D7, D8 Caterpillar Tractor Dozer/Scrapers, D8 Caterpillar Tractors with Type 80 Birtley 14/18 cu. yd. Scraper, 10 RB, 19 RB and 22 RB Excavators.



**THE BEST ON EARTH—  
BUCKTON OF ASHTON**

**BUCKTON LIMITED, 63 Stockport Rd., Ashton-under-Lyne  
Tel: Ashton-under-Lyne-1848 (3 lines)**

# MUD - ability

**Shawnee  
Poole**  
**will maintain  
production  
in MUD**

Even in the worst weather conditions, rugged, mobile, Shawnee Poole Rear Dump Haulers maintain high production . . . their unique 110° of turn cuts cycle time and eliminates expensive site preparation. The Shawnee Poole System saves you up to 50% in total operating costs, and increases production too.

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*The Shawnee Poole system is manufactured under British and Foreign patents granted and pending.*



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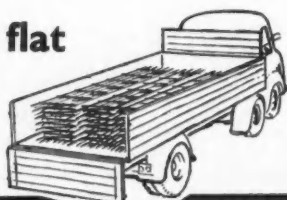
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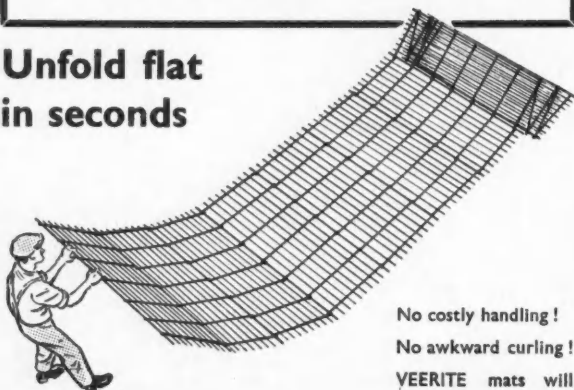
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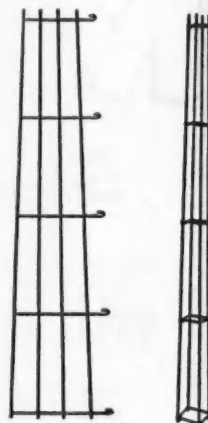
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increase concrete post  
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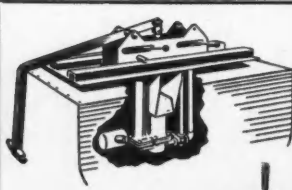
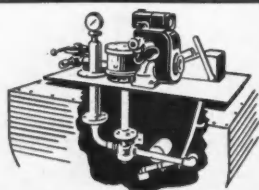


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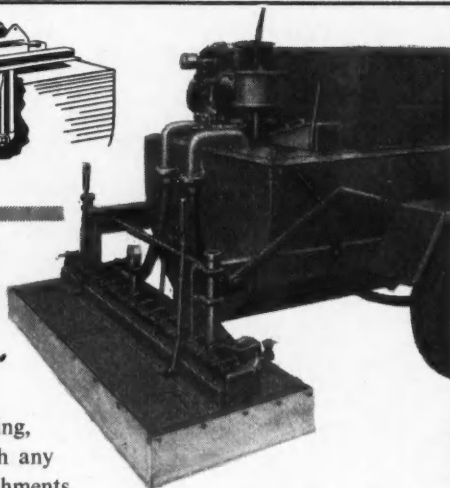
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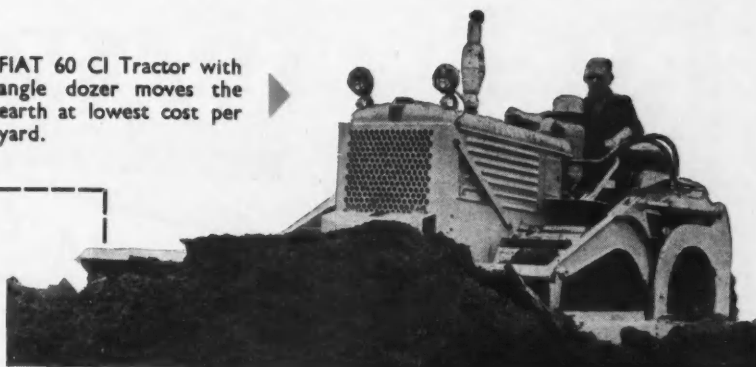


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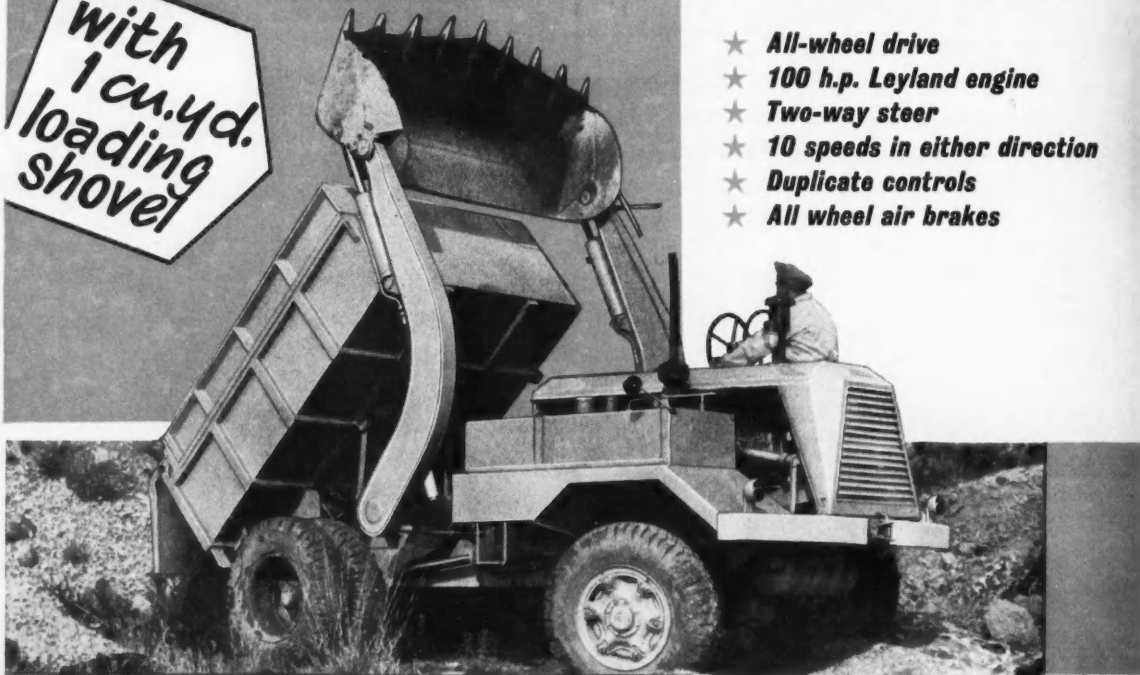
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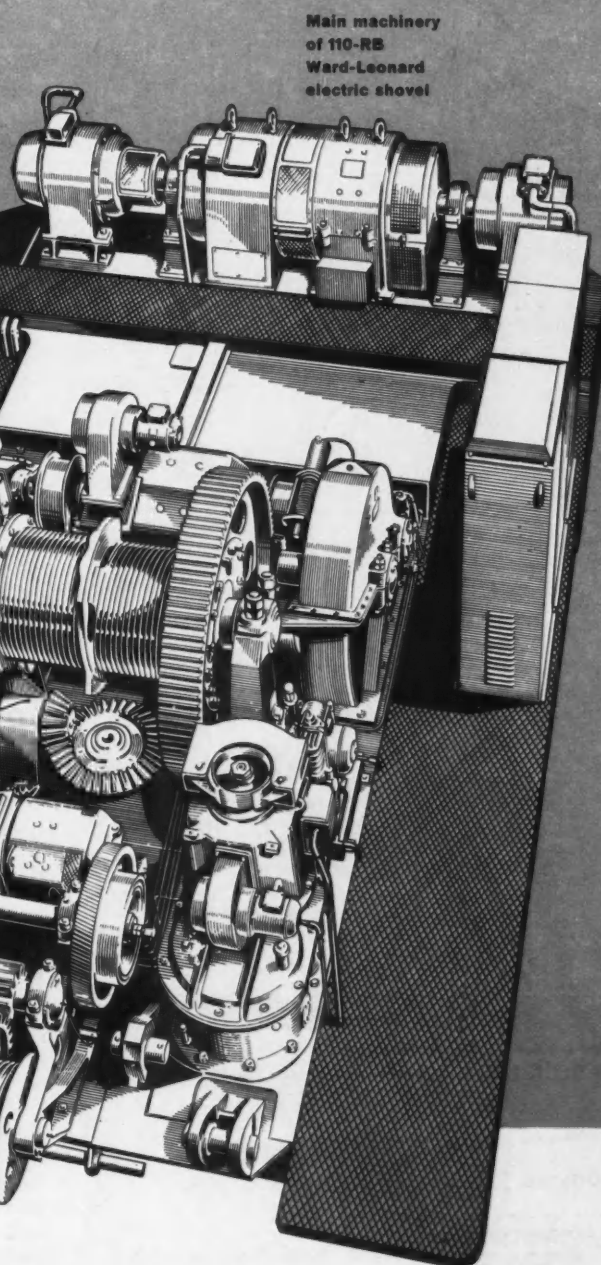
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Main machinery  
of 110-RB  
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electric shovel

RB10/C

**RUSTON-  
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Transparent Fablon Polythene film is supremely tough and resistant to tearing. Non-absorbent. Unaffected by alkalis, aqueous salt solutions, most acids, corrosive sub-soils. Exceptionally lightweight and flexible. Available in full range of gauges and widths.

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The skip tips and empties under the finger-tip control of the driver and while the Dumper is standing or moving forward or in reverse. Part or all of the load is tipped as desired. Skip goes under ordinary Mixers, holds a cu. yd. of concrete, and, because of sideways tipping, is ideal for kerbing, concreting green pipes, filling trenches and the like.

3-Way Tipping Dumper illustrated is Model OC. The price is £750 and delivery is from Stock.

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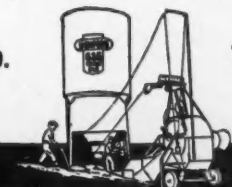
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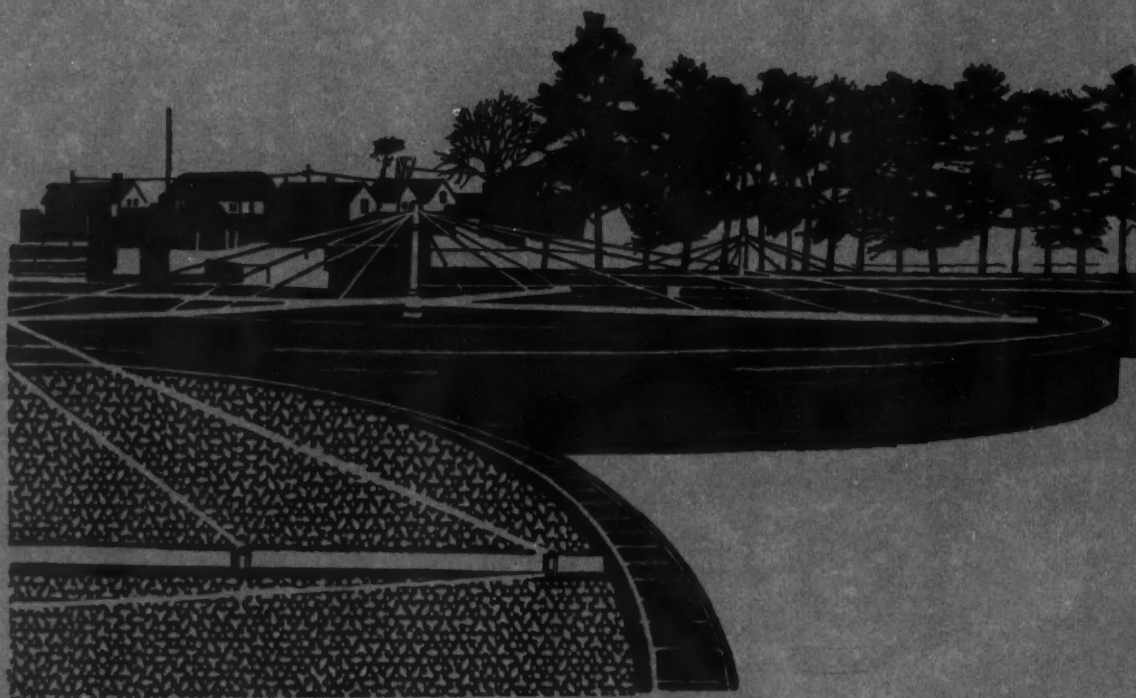
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PLANT AND MACHINERY WANTED—FOR SALE—FOR HIRE

(Continued from page 1516)

**CRANES FOR HIRE.**  
15cwt. GM Neals Fully Mobile Diesel Cranes, 18ft. Straight and 20/40ft. Telescopic Jibs.  
15cwt. Jones KL15 Self-propelled Diesel Cranes, 15/20ft. Straight Channel Jibs.  
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3-ton Neals Diesel Mobile Cranes, on pneumatics, 30/35ft. Straight Lattice Jibs.  
5-ton Jones Diesel Crawler-mounted Cranes, 30/40ft. Straight Lattice Jibs.  
4-ton Jones KL44 Diesel Crawler Cranes, 30/45ft. Straight Lattice Jibs.  
4-ton Jones KL44 Diesel Mobile Cranes, on pneumatics, 30/45ft. Straight Lattice Jibs.  
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Hire your Cranes at most competitive rates from the Crane Specialists.  
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One FORK LIFT by Matbro, 3,500lb. capacity, mounted on Fordson Major Tractor, Diesel, Twin driving wheels with Crane Attachment. Ex Ministry. Condition as new.  
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19RB EXCAVATORS and 22RB EXCAVATORS, 977 and 955 TRAXCAVATORS.  
Drott SHOVELS, TD24.  
International DOZERS.  
D8 and D7 TRACTORS and SCRAPERS.  
Bulk earth moving undertaken.  
Fleet of Leyland and Bedford TIPPING LORRIES now.  
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Stothert and Pitt 1½-ton Portable High-speed Electric Deck Cranes, height of lift 120ft., 20ft. radius.  
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10 Scrapers, for which we require £8,000. Four are Birtley 70 purchased new between April, 1953, and June, 1955. A Caterpillar 1325 new in May, 1954. Two Onions 11/15 purchased new in May, 1956. One Onions 12/16 purchased new in September, 1956. One Onions 8/11 and one Onions 15/21 purchased October, 1960. Arrangements for inspection of any of the above machines can be made through Dow-Mac (Plant and Transport), Ltd.  
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Caterpillar D6s, D7s and D8s, with Dozers.  
10RB, 19RB, 22RB and 43RB, various equipments.  
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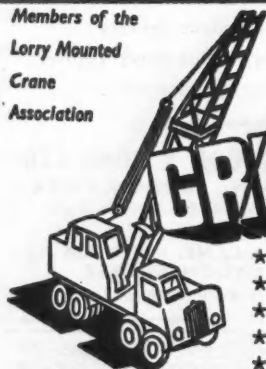
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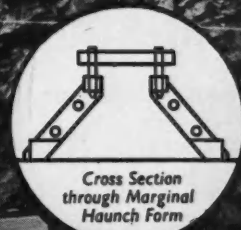
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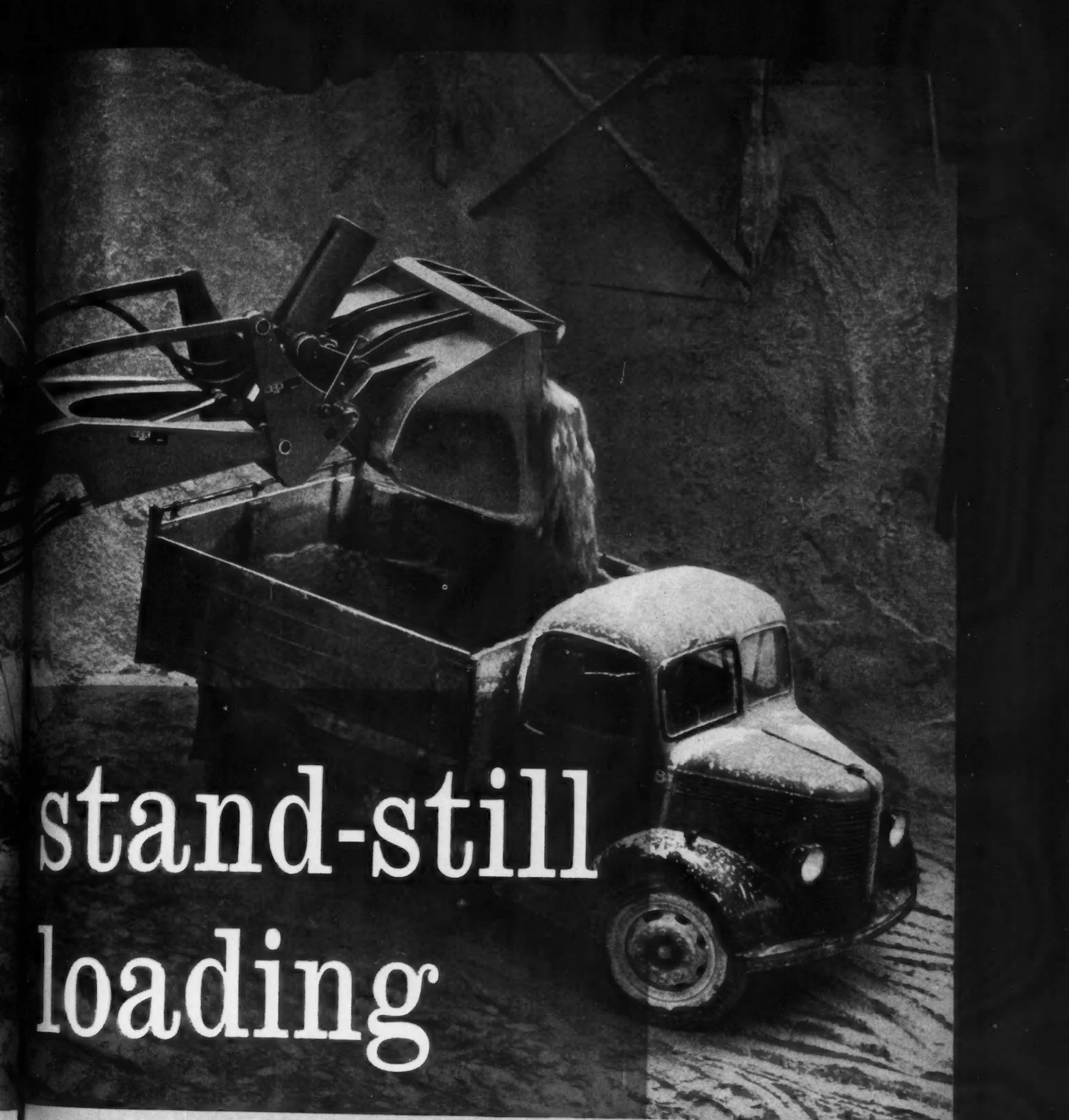
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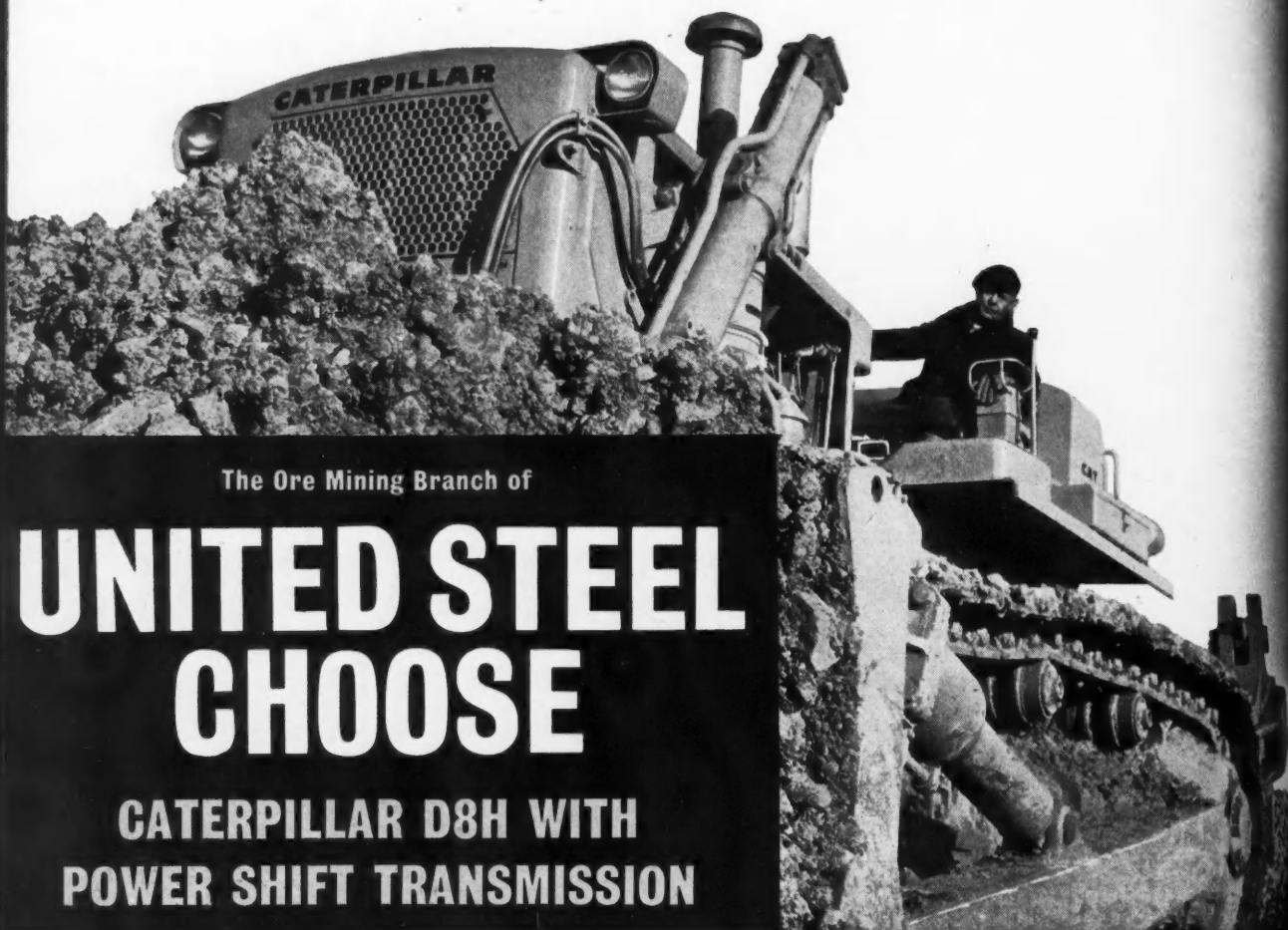


# stand-still loading

output up...  
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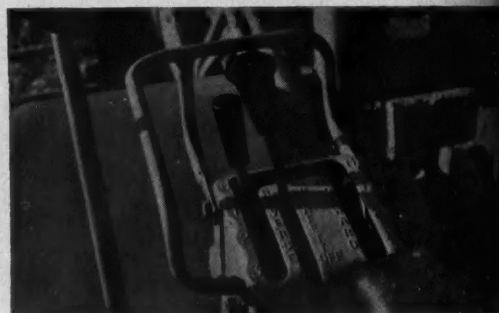
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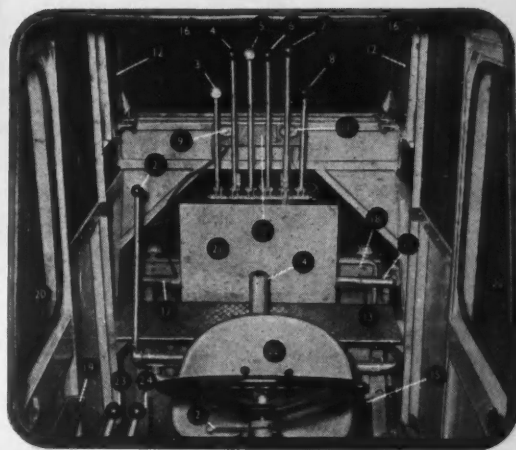
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## AN EXTENDED RANGE OF M-F INDUSTRIAL EQUIPMENT NOW Four new tractors and Instant Reverse

A COMPLETE range of industrial equipment has been introduced by Massey-Ferguson. It is designed to supersede expensive, single purpose machines on light and medium construction, industrial or public works projects.

Four new tractors, a new dumper, and the revolutionary Instant Reverse—which enables the driver to change direction without changing gear—and a complete range of attachments allow you now to pick your power to match your project.

★ The new M-F 205 industrial tractor (described below) is the only unit in its class fitted with Instant Reverse and a torque converter. With 702 shovel, it is the ideal shovel-loader combination.

### Basic power plant

★ The new M-F 203 tractor is the basic power plant of the new range. It is fitted with the new three cylinder diesel engine and with the transmission and back axle of the M-F 65 tractor. It makes a compact and rugged unit on which can be mounted the 710 digger and 702 loader.

★ Two models of the 65 tractor have been introduced into the industrial range. They are the 65 S and the 65 R. The 65 S has a standard transmission.

### Powerful shovel-loader

★ The 65 R is fitted with Instant Reverse transmission.

It makes yet another powerful shovel-loader unit in the industrial range.

★ A new six ton trailed dumper joins the M-F range. Behind the 203 tractor, it makes a highly manoeuvrable dump trailer.

★ There are two versions of the well-known, versatile industrial 35 tractor. In new yellow and grey colours, the 35H is fully equipped to comply with the legal requirements for use on the public highways. It is fitted with dual brakes.

The 35 S is a general purpose tractor for building and public works sites. Both the H and S models can be fitted with a foot throttle.

Attachments for all tractors include the winch, earth scoop, dumpskip, earth mover, trailers, multi-purpose blade, post hole digger, highway mowers and a fork lift.

The wide variety of ancillary equipment suitable for use with M-F tractors includes road brushes, roller, gritter and verge trimmer, compressors, water pumps, gang mowers, low loading trailer, and a mobile welding generator.



The new M-F 205 tractor loading coke. Instant reverse enables the driver to change direction without changing gear.

## THE M-F DUMPER CARRIES A SIX TON PAY LOAD

THE NEW M-F dumper has its hitch point in front and below the rear axle—keeping all four tractor wheels firmly on the ground for perfect traction and easy steering. Front end weights are not needed.

The massive main frame is box section built with absolute rigidity. The buttress front merges cleanly with the hitch structure, giving a tough design which can withstand heavy loads.

The dumper skip, which carries a six ton working pay load, has a "no corners" bottom for a quick, clean and complete discharge.

The unique braking system employs vacuum assisted hydraulic brakes, the vacuum cylinder of which is fully protected inside the axle housing and sealed against dirt.

### No jack-knifing risk

Outsize brakes are linked to twin pedals on the tractor. The left pedal brakes the dumper only. Both pedals together brake the dumper in advance of the tractor. The right pedal brakes the tractor only for reversing. There is no risk of jack-knifing.

Extremely manoeuvrable, the dumper's compact layout means easy handling in tight corners. The operator can sight along the top of the body when backing under loading hoppers.

Double rams lift the body through 70 degrees giving a 52 degree tip angle for a fast, free running discharge. Turning axis is 90 degrees. Ample clearance between the tractor tyres and the dumper frame means there is no limit to the turning circle.

### Forward and back at a touch of your toe

INSTANT Reverse—fitted on the new M-F 205 and 65 R tractors—allows you to change direction at a touch of your toe. It eliminates gear changing to go from forward to reverse.

There is a single rocking pedal with 3 arms operated by the right foot. The first touch of the pedal on the right engages the drive. Further pressure accelerates the engine. The tractor moves forward smoothly. When you lift your foot the drive stops.

The centre pedal accelerates the engine and the pump to speed up loader lift and tilt. The pedal on the left engages reverse drive. Further pressure accelerates the engine. In comes the torque converter and the tractor reverses, gaining speed.



The left hand pedal engages reverse drive

## Instant Reverse and torque converter on the M-F 205 tractor

THE NEW M-F 205 industrial tractor is the only unit in its class with Instant Reverse and torque converter. With the ability to change direction without changing gear, the 205 is ideal for use in stockpiles and shovel loading, together with the 702 shovel.

A three cylinder diesel engine, known as the 3-A-152, fitted with chromium plated renewable steel liners, gives 38 b.h.p. at 2,000 revs. and tremendous "back-up" torque that increases through to 1,250 engine revs. Finger-light power steering

means only one hand on the wheel, leaving the left hand free to work the loader hydraulic levers.

When using the 702 loader the operator has good all round visibility of his work. The loader beam pivot points are right down to bonnet level and the operator can have a clear view of the loader bucket on the ground.

The 205 is the basic power unit for the M-F tractor loader. Every detail of each unit is planned to fit neatly into a composite overall design.



## SITE AGENT SAYS OF M-F UNIT:

# *'Moves quickly, works fast on a crowded site'*

By Ken Court

**B**OTH ends of Turriff Construction Corporation's M-F unit are being kept busy on the Hartshead Power Station Extension at Stalybridge in Cheshire.

A new 275 thousand volt sub station and a 132 thousand volt switch house are being built for the Central Electricity Generating Board. Turriff's have been on the site since August 1959 doing foundation work, all the superstructure for the switch house and structures for the substation.

Mr. L. H. Howell, resident civil engineer for the Central Electricity Generating Board, explained the reason for building the power station extension.

"The basic function of the 275 KV sub station and the indoor 132 KV major transforming and switching station is to import electricity at 275 thousands volts from the National Super Grid, transform it down to 132 thousand volts and to switch it into numerous feeder stations on the east side of Manchester.

"This sub station supplements the electricity supplies of the major load centres of the north-west."

Mr. B. S. Haslam, Turriff's site agent, said: "We have built the sub station including the control building and the oil plant building and switch house.

"These have been all pre-cast units, with in situ con-

crete joints. We have done all the brickwork inside the buildings and all the ancillary works.

"The machine was brought on the site and will work here for two months. The digger has been excavating 300 feet of cable ducts eight feet wide by 18 inches deep. It has excavated bases for electrical equipment, the base of a new stores building, and a trans-former skidway—a concrete ramp for positioning transformers. The loader has been used for site grading and loading lorries.

"The unit is a very good machine with ample power in it. It is very manoeuvrable—a most important factor on this site where we are going in and out of existing trenches and buildings.

"The independent stabiliser feet are a very good feature of the digger. With its power and manoeuvrability it can move quickly and work fast round a large crowded site.

"The operator, Michael Smyth, went to the M-F School at Stoneleigh and has only been using the machine since it came on this site. He has become so proficient that he will travel the country with the unit as its only operator.

"A dumper driver when he first joined the Company, he has used the other makes of tractor mounted diggers and considers this one to be the best."



Turriff Construction Corporation's M-F unit working on the Hartshead Power Station Extension at Stalybridge in Cheshire.

## THIRTY-ONE MILES OF DRAINAGE DITCH ON BRISTOL MOTORWAY



### An offset digger essential

**T**HIRTY-ONE miles of open tapered ditch is just one of the job's being done by three M-F 710 diggers on the southern section of the Bristol-Birmingham Motorway.

Mr. W. Hillman, of A. Monk and Co., the Warrington civil engineers and Contractors, controls the plant on the southern section of the Motorway which runs from Offerton canal north east of Worcester to join the existing Ross Spur Motorway.

"The first job," he said "was to find a machine to cut a tapered drainage ditch at the foot of the batters which occur in places along each side of the Motorway which in this section is fifteen and a half miles long. Part of the ditch is open and part carries drainage pipes and is back-filled.

"There are three of our 710 units in this section but we had six more on hire before we bought our own. We chose these units partly because of their ability to work close to embankments and fences by offsetting the boom for flush digging—an essential for this kind of work."

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The first 710 went on to the Motorway last June as an

experimental machine. Four machines worked through last summer and these were cut down to two during the winter months when all work on the Motorway was of necessity reduced. The present machines have been working full time since Easter and will continue working until later in the year."

Added Mr. Hillman: "The 710 units are cutting ordinary trenches for drainage across the motorway. They also excavate trenches for cable diversions. And the front ends have been busy loading crushed concrete."

Three of the 710 operators and one supervisor went on a three-day course at Stoneleigh to learn to use the equipment and found the course extremely interesting and informative."

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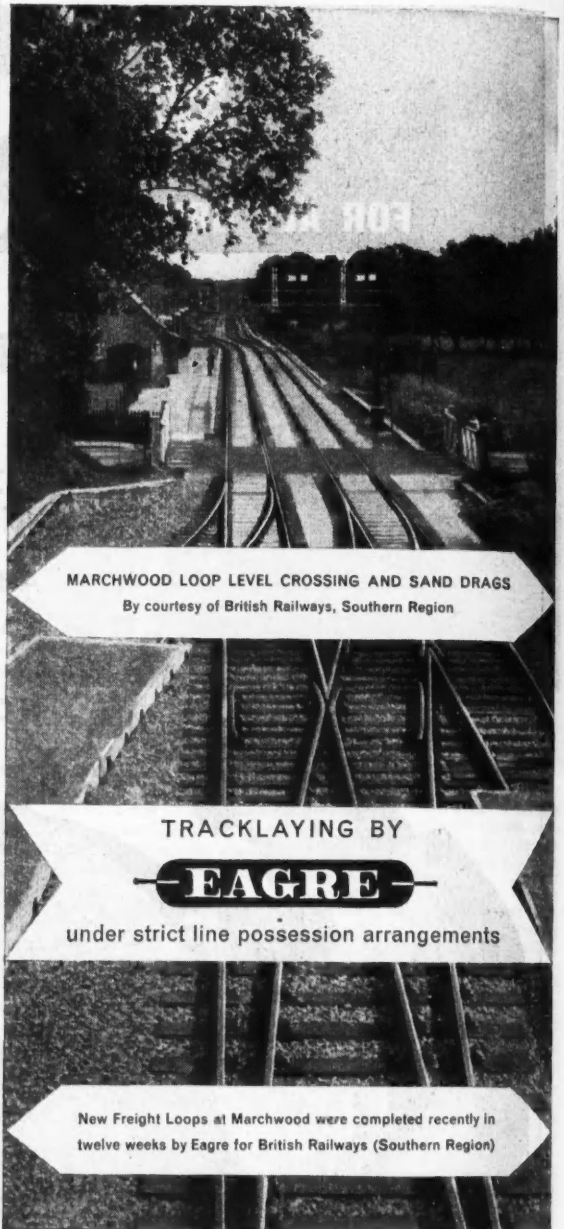
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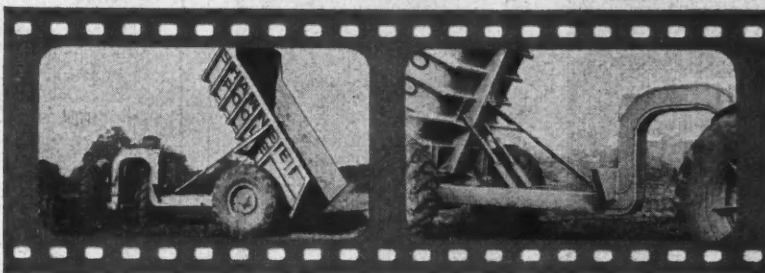
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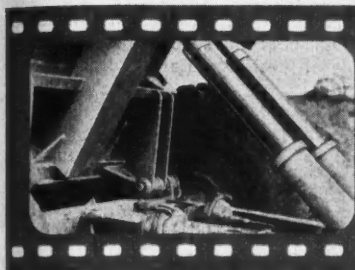


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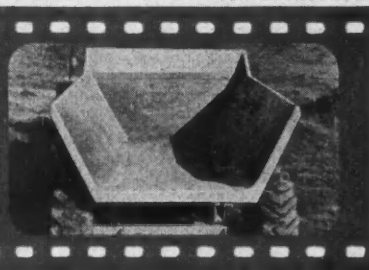
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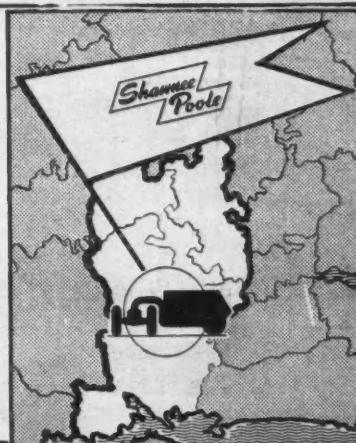
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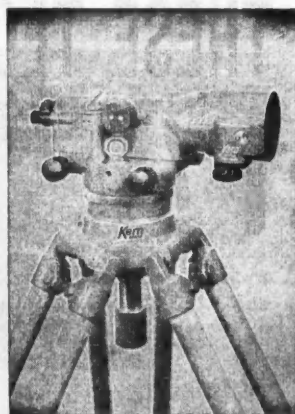
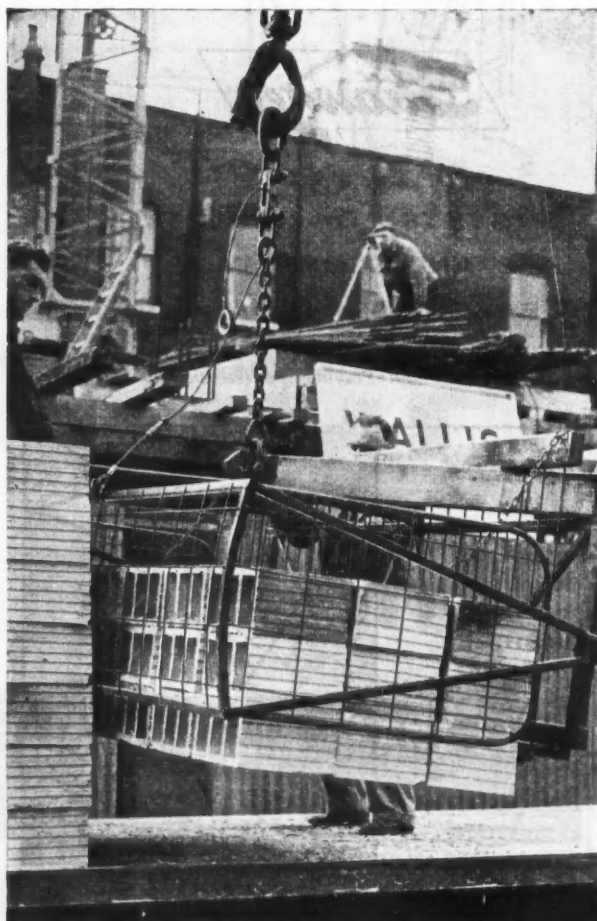
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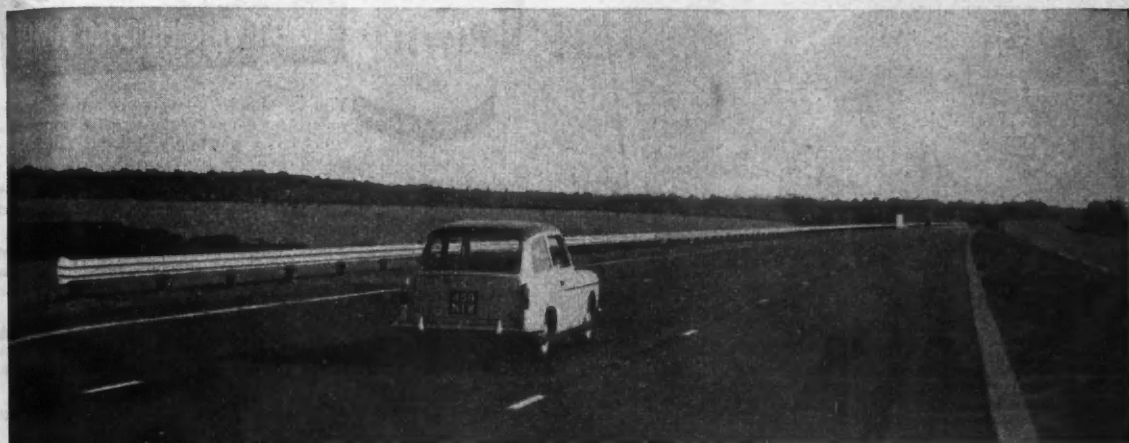
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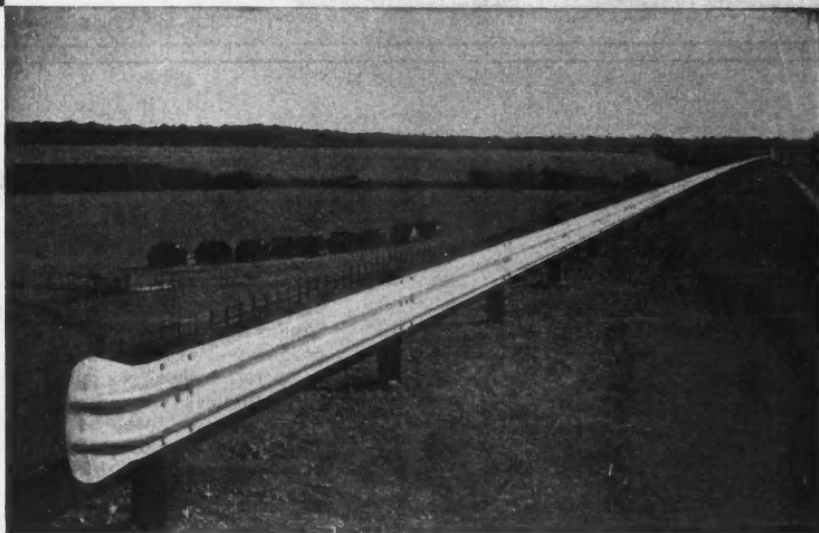
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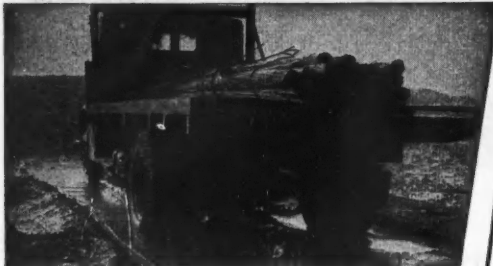
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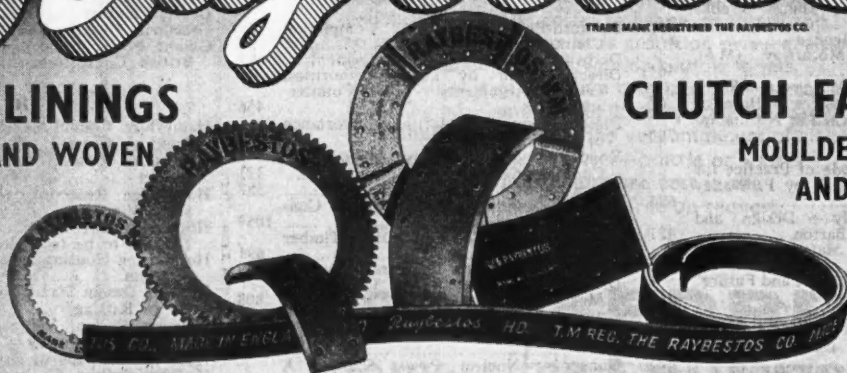
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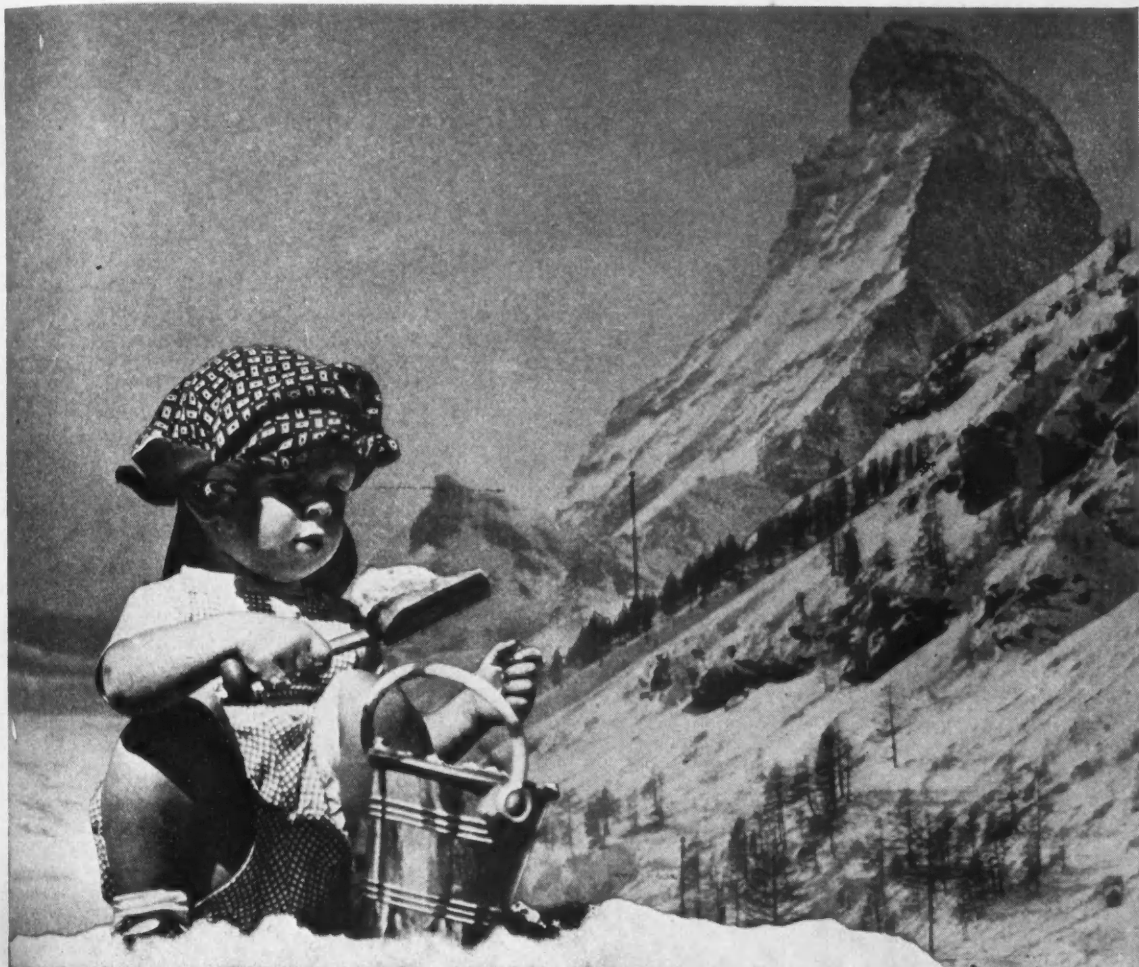
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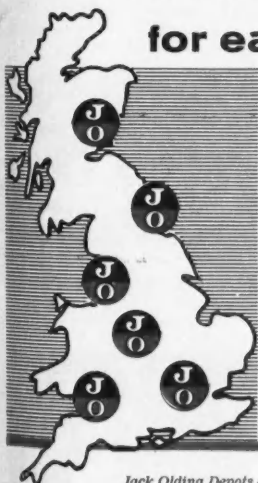
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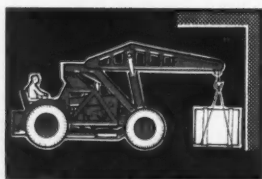
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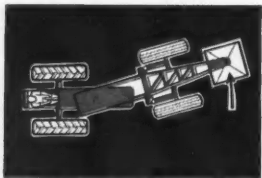
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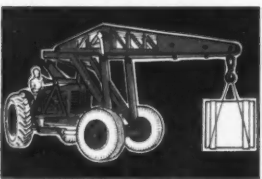




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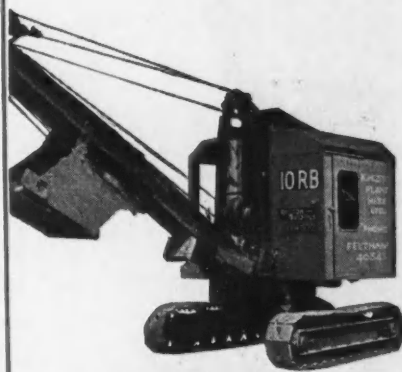


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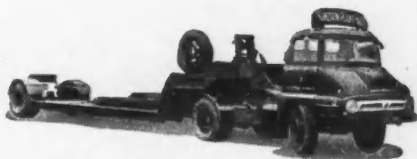
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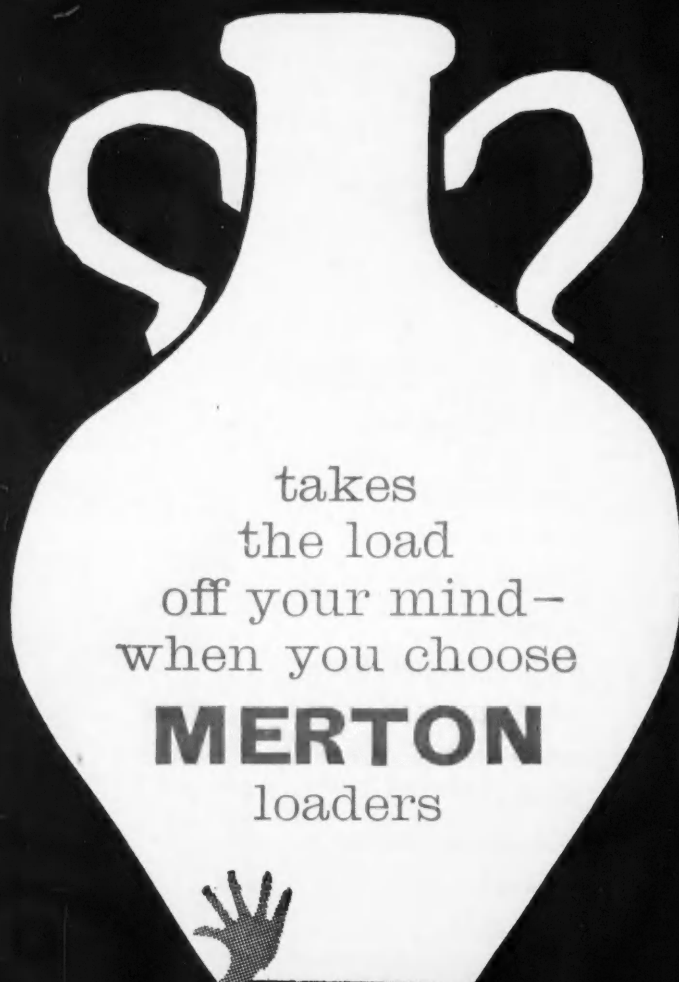
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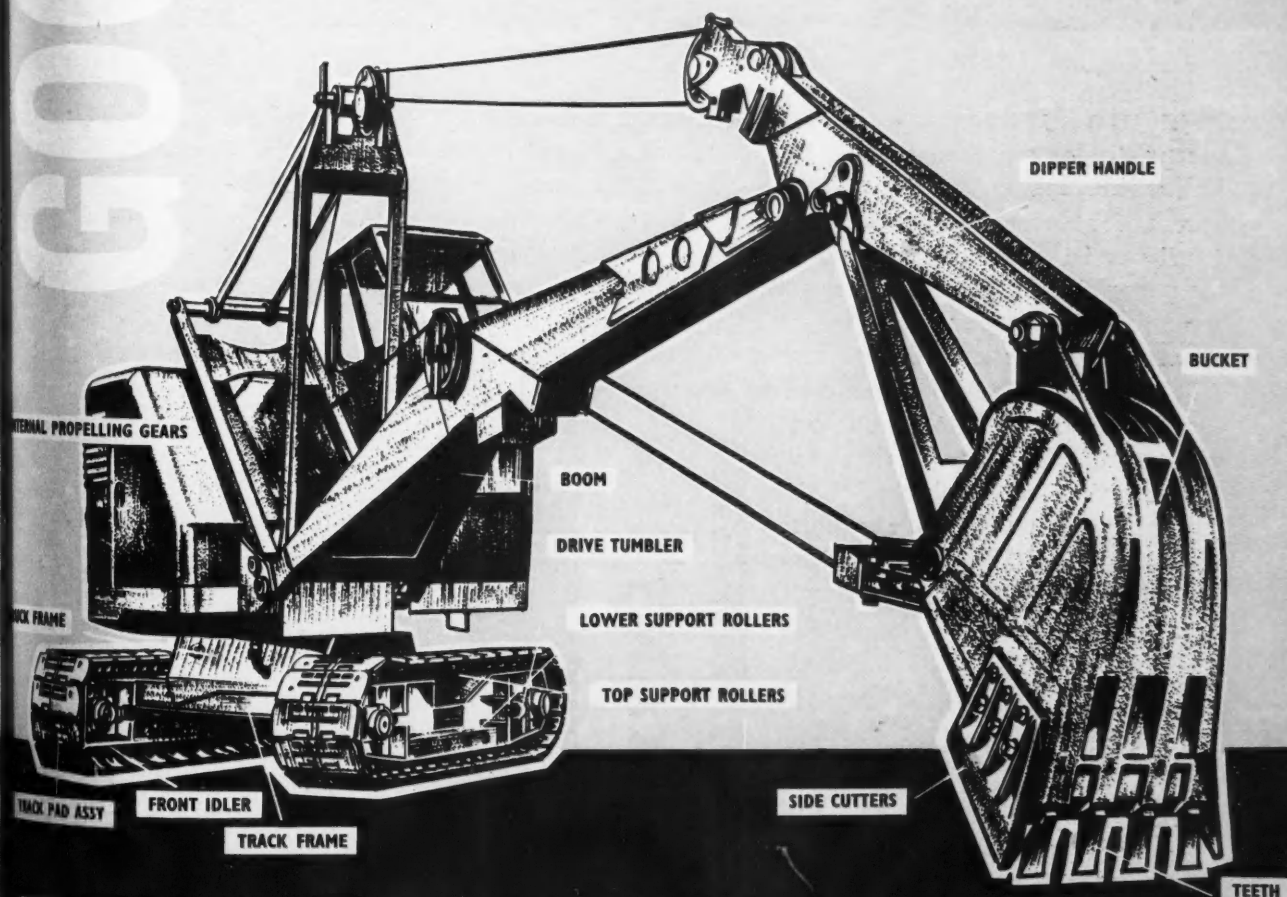
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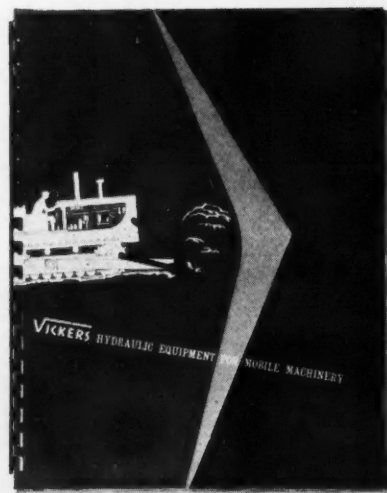
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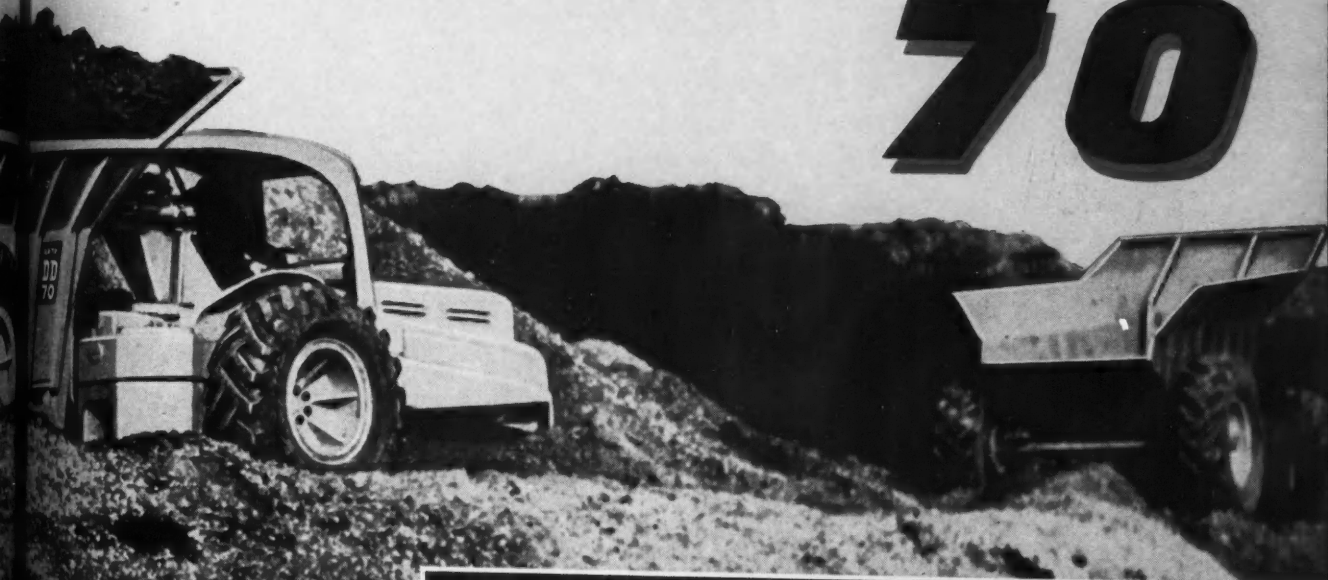
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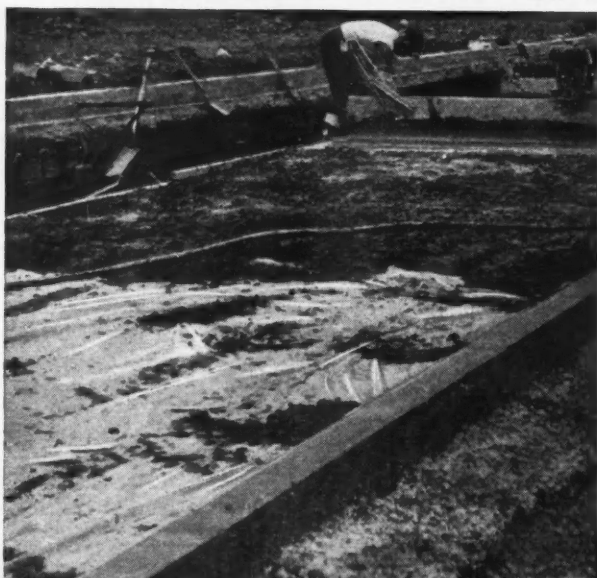
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Highways Authority: Middlesbrough Corporation, Construction by Direct Labour Dept. Borough Engineer: J. A. Kenyon, M.I.C.E., M.I.Mun.E., M.T.P.I.

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**HULLAND GRAVEL CO., LTD.**, Cheshire, Stoke-on-Trent. (Tel.: Cheshire 2323/4, 2119 and 2195.) Manchester Office: 464 Wilbraham Road, Chorlton, Manchester, 21. (Tel.: Chorlton 2274/5.)

**KEVIN LIME CO., LTD.**, Oakamoor, Staffs. (Tel.: Oakamoor 385-386.) Clean graded dry limestone, all to B.S.S. sizes. Output 1,000 tons per day.

**SALISBURY AND WOOD, LTD.**, Matlock. (Tel.: 272/273.) Limestone and granite, dry or coated gravel and sand, kerbs, slabs, blocks, poods, reconstructed and natural stone; lime and ground limestone; lightweight aggregates, ashes, red shale.

**WARDLOW LIMESTONE, LTD.**, Cauldon Low, N. Staffs. (Tel.: Oakamoor 366.) (For details, see Staffs.)

## DORSET

**BUL BROS., S. and L., LTD.**, 126A High Street, Winchester. (Tel.: 2264.) (See Hampshire.)

**DANGERFIELD, F. J. & CO., LTD.**, 261A Finchley Rd., London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

**DORSET LIMESTONES, LTD.**, Bumpers Lane, Easton, Portland, Dorset. (Tel.: Portland 2207/8.) Tarred and bituminous macadam, foundation materials, limestone for all purposes and to all gradings. Portland stone aggregates and Portland caststone aggregates for reconstructed stone. By road and sea. (Tel.: 5379.)

**MOREYS (VERWOOD), LTD.**, Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggins, path gravel.

## ESSEX

**ALRESFORD SAND AND BALLAST CO., LTD.**, Alresford Creek, near Colchester, Essex. (Tel.: Wivenhoe 341/494.) Pits at Alresford Creek, Brightlinges, Boxford, Bures and Holland. All grades of washed shingle, concreting sand and building sand. Road and water transport.

**EAKES, F. WISE E., LTD.**, 73 High Road, Rayleigh, Essex. (Tel.: Rayleigh 1031/2.) Pits at Great Totham, Heybridge and West Tilbury. All grades of washed material supplied and delivered; also hardcore ash and bricks.

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leeds.)

**BUCERICKS COMPANY, LTD.**, Sand and Ballast Pits, Martella, Ardleigh, Colchester. (Tel.: Ardleigh 310.) All grades of washed aggregate, sand, building sand, asphalt, grit. Sterilised dry sand accurately graded to buyers' requirements.

**DANGERFIELD, F. J. & CO., LTD.**, 261A Finchley Rd., London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

**FERRIS PITS, LTD.**, The Limes Garage, Fencepiece Road, Barkingside, Essex. (Tel.: Hainault 5271/2-3001/2.) Pits at Orsett, near Stanford-le-Hope, and Uplminster. All grades of washed aggregates, plastering and building sands supplied and delivered, also hardcore.

**HALL AND CO., LTD.**, Manor Road, Romford. (Tel.: Romford 4232/1.) Pits at Uplminster, Boreham and Romford, near Grays. Gravel aggregates, concreting, plastering and building sand.

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**HUMPHABLE, F. A. AND SON, LTD.**, Payne Road, Braintree, Essex. (Tel.: Braintree 151 and 1351.) Graded washed stone, in lot, reflects washed concrete sand and washed soft building sand. Classified sand for asphalt. Ready mixed concrete to all grades. Pits at Braintree, Bocking, Bassey, Bg. Heddingham and Aldham.

**KENRICK, W. LTD.**, 92 Waterloo Road, Romford, Essex. (Tel.: 42481/2.) Supply and deliver all grades of sands, ballast and shingle, asphalt grits, granite aggregate. Rubbish clearance. Tilt available at Uplminster.

**LEIGH BUILDING SUPPLY CO., LTD.**, Head Office: 956 London Road, Leigh-on-Sea, Essex. (Tel.: 72864—5 lines.) All grades washed materials, building sand, hardcore, ashes, bricks, granite.

**PETERS AND BARMAN, LTD.**, 309 South Street, Romford. (Tel.: Romford 44141—7 lines.) Washed and crushed gravel, all sizes; Sand Pits at Ashedham, Chigwell, St. James, Dagenham, Great Waltham, North Ockendon, Romford, West Thurrock, Romford and Thorpe-le-Soken.

**PINCH, L. A. AND A., LTD.**, Upper Rainham Road, Elm Park, Romford, Essex. (Tel.: Hornchurch 48912/3/4.) Haulage, all aggregates and excavation.

**READ, P. T., LTD.**, Fairlie, Alford, Forest Road, Ilford. (Tel.: Hainault 611/2/3.) High-grade sands, ballast and shingles supplied and delivered; also ready-mixed concrete.

**ST. ALBANS SAND AND GRAVEL CO., LTD.**, London Colney, St. Albans, Herts. (Tel.: Bowmans-green 2271.) Pits at Meadgate Road, Nazeing; Station Road, Waltham Abbey.

**ST. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4 and Halesstead 2233.) Pits at St. Ives and Halesstead.

**STANWAY CONTRACTS LTD.**, Upper Edwards Hall, Eastwood, Southend-on-Sea. (Tel.: Eastwood 55161.) Sand and gravel pits at Rochford and Woodham. Washed aggregates supplied or delivered.

**WIVENHOE SAND, STONE AND GRAVEL CO., LTD.**, Wivenhoe, near Colchester, Essex. (Tel.: Wivenhoe 231.) High quality washed aggregates of all grades.

## GLOUCESTERSHIRE

**DENGRY AND SONS, LTD.**, Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

**COKE, Y. F. (CHELTENHAM), LTD.**, 267 Gloucester Road, Cheltenham. (Tel.: Cheltenham 4717/4874.) Sand, graded gravel aggregates, hardcore, limestone, chippings, tarred and bituminous limestone concrete blocks, fence posts, etc.

**CROMHALL QUARRIES, LTD.**, Cromhall, Wotton-under-Edge, Glos. (Tel.: Field 348/7.) Concrete aggregates, pre-graded in large quantities. Tarmacadam, tarpaving, bituminous macadam and cold asphalt to B.S.S. for hand or machine laying.

**GRIFITHS, A. AND SONS, Churchdown, Gloucester.** (Tel.: Churchdown 3135 and 2216.) Pit, quarry and dredger owners. All grades and types aggregate materials.

**HALL AND CO., LTD.**, Longmoor House, Ashton Vale Road, Bristol, 3. (Tel.: 63001.) Gravel aggregates, concreting, plastering and building sand.

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**NORTH WILTS. QUARRYING CO., LTD.**, Noble Street, Swindon, Wiltshire. (Tel.: 321—15 lines.) (For details see entry under Wiltshire.)

**SHAKEMANTLE QUARRY CO., LTD.**, Cinderford, Glos. (Tel.: Cinderford 3197.) "Dours" Facing. Engineering and Common Bricks in terra-cotta, red and golden brown. Concrete aggregates, roadstone and dolomitic media.

**TAYMAC, LTD.**, Wootton Bassett, near Swindon, Wiltshire. (Tel.: Wootton Bassett 391—5 lines.) Cotswold stone, hardcore, washed and graded aggregates, building sand.

Rates for insertion in this GUIDE will be forwarded on application

## CONTRACTORS'

## GUIDE TO AGGREGATES

## GLOUCESTERSHIRE

**WHITECLIFF QUARRIES AND BRICKWORKS, LTD.**, Coleford, Glos. (Tel.: Coleford 3158/9.) Tinned and bituminous limestone macadam, asphalt, concrete aggregates, dolomitic media, engineering, facing and common bricks for all purposes. Delivery road or rail.

## HAMPSHIRE

**BARDON HILL QUARRIES (ELLIS AND EVERARD)**, LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

**BULL BROS., S. AND L., LTD.**, 126A High Street, Winchester. (Tel.: 2264.) Concrete aggregates (reconstituted, pit-mixed, weightbatched to meet any specification); also ballast, hoggins, path gravel and sand from own pits at Fawley, Lockerley, Ringwood, Romsey, Sway and Totton.

**DANGERFIELD, F. J. AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

**HALL AND CO., LTD.**, Baltic Wharf, Marine Parade, Southampton (Tel.: Southampton 21234.) and at Portsmouth. Pits at Ringwood, Highbridge and Fawley. Gravel aggregate, concrete, plastering and building sand.

**HASKINS, G. AND SONS**, Queen Street, Emsworth. For washed sand and graded aggregates, path and road gravels, hoggins, clinkers, ashes. (Tel.: Emsworth 2271.)

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**MIDLAND AGGREGATES, LTD.**, Eversley, near Basingstoke, Hants. (Tel.: Eversley 2250.) Washed and pit sand and all aggregates.

**MOREYS (VERWOOD), LTD.**, Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggins, gravel, hoggins.

**NEW MILTON SAND AND BALLAST CO.**, Lymington Road, New Milton, Hants. (Tel.: 37 and 886.) Guaranteed uncrushed, washed, screened and graded concrete aggregates. All sizes. Washed sharp and fine sands.

**NORTH WILTS. QUARRYING CO.**, Noble Street, Sherston, Wilts. (Tel.: Sherston 321—3 lines.) (For details, see Wiltshire.)

**FRIVETT, W. G. AND SONS, LTD.**, Drayton Lane, Portsmouth. (Tel.: Cosham 70058.) Concrete aggregates, building sand, hoggins, clinkers, washed and graded filter media, etc.

**ALPH OF BASINGSTOKE, LTD.**, 37 Kemphott Lane, Basingstoke, Hants. (Tel.: 85.) Concrete aggregates, building sand, hoggins, gravel, hoggins.

**TRICKENHAM GRAVEL CO., LTD.**, Ship Lane, Farnborough (Tel.: 1126); Sandhurst Road, Yateley (Tel.: 2230).

## HEREFORDSHIRE

**BENDRY AND SONS, LTD.**, Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) Suppliers of all grades of crushed concrete aggregates, road metal, pitching stone, hardcore and coated macadam.

**EVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**NASH ROCKS, SONS AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) All grades of tinned and bituminous macadam, roadstone, chippings and concrete aggregates, etc.

**OLD RADNOR TRADING CO., LTD.**, Kingston (Tel.: 421.) Granite and limestone aggregates, coated macadam, concrete products.

**SALOP SAND AND GRAVEL SUPPLY CO.**, Adamston, Wellington (Tel.: 961), Salop.

**SHAKEMANTLE QUARRY CO., LTD.**, Cinderford, Glos. (Tel.: Cinderford 3197.) "Dura" Facing, Engineering and Common Bricks in terra-cotta and golden brown. Concrete aggregates, roadstones, and Dolomitic media.

**WHITECLIFF QUARRIES AND BRICKWORKS, LTD.**, Coleford, Glos. (Tel.: 3158/9.) (See Gloucestershire.)

## HERTFORDSHIRE

**BARDON HILL QUARRIES (ELLIS AND EVERARD)**, LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

**DANGERFIELD, F. J. AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

**EASTWOODS SALCS, LTD.**, Eastwood House, City Road, E.C.1. (Tel.: Clerkenwell 204.) Washed aggregate and building sand. Pits at Hertford and Enfield.

**GABRIEL, C. LTD.**, Palmers Lane, Enfield, Middx. (Tel.: HOWard 4351/2/3.) Washed aggregate and building sand. Pits at Enfield and Hertford.

**HALL AND CO., LTD.**, Railway Yard, Orchard Road, Stevenage (Tel.: 775.) and at Hatfield. Gravel aggregates, concrete, plastering and building sand.

**HARTIGAN, G. F. X., LTD.** (See Buckinghamshire.)

**ST. ALBANS SAND AND GRAVEL CO., LTD.**, London Colney, St. Albans, Herts. (Tel.: Bowmans-green 2271.) Pits at Smallfield Lane, Smallford, and Bramfield Lane, Waterford, Marsh Road, Stanstead Abbotts.

**ST. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) And Three Mills Pit, Codicote. (Tel.: Codicote 217.)

**TRICKENHAM GRAVEL CO., LTD.**, Eleanor Cross Road, Waltham Cross. (Tel.: 23388.)

**WEBB, G., CAMBRIDGE**, 35 Megarth Ave., Cambridge. (Tel.: 55965, 55969, 55353 (night).) (See Cambs.)

**WINFIELD MCNRY, LTD.**, Pix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamstead 1208/9.) Pits at Hemel Hempstead, Watford, West Herts, Rickmansworth. Concrete aggregates, hoggins, ballast, sand.

## HUNTINGDONSHIRE

**BARDON HILL QUARRIES (ELLIS AND EVERARD)**, LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

**FERRIS AND AGGREGATES, LTD.**, Northampton Road Quarries, Rushden (239 V/5). (See Northants.)

**GRAVEL PRODUCTS LTD.**, 52, Little Paxton, St. Neots, Hunts. (Tel.: St. Neots 308.) Pits at Little Paxton, St. Neots, Hunts; and Blunham, Beds.

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**NEW BARGE AND LUTTER CO., LTD.**, Market Chambers, Peterborough (Tel.: 5534/5.) and at Quarries, Wansford, near Peterborough (Tel.: Wansford 384/5.) Roadstone, hardcore, broken stone, ballast, ashes, silica clay and sand.

## HUNTINGDONSHIRE

**ST. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) Producers of all grades of washed sand and gravel. Ready mixed concrete. Prompt delivery of other materials.

**WEBB, G., CAMBRIDGE**, 35 Megarth Ave., Cambridge. (Tel.: 55965, 55969, 55353 (night).) (See Cambs.)

## KENT

**BRISTED SAND PITS, Brasted, Kent (Tel.: 555.)** London Office: 10A Elly Street, S.E.15. (Tel.: New Cross 3337.) Soft and plastering sands, lime and sand-mix dry, hardcore, S.H. Bricks, ashes, etc.

**BROWN BROS. (SITTINGBOURNE), LTD.**, Chalkwell Road, Sittingbourne, Kent. (Tel.: Sittingbourne 330.) Sand, ballast, shingles, hoggins, hardcore, clinkers, chalk, etc.

**CLUBS, J., LTD.**, Dartford, Kent. (Tel.: Dartford 25431.) Pits in North Kent, Medway area and Sevenoaks district. All washed and crushed gravel aggregates, concrete and building sand.

**DIAMOND TREAD CO. (1938), LTD.**, Ditton Court Quarry, Larkfield, near Maidstone. (Tel.: West Malling 3444.) Quarry owners, tarmac, bituminous macadam and dry road stone manufacturers and suppliers. Head Office: 21-22 Old Bailey, London, E.C.4. (Tel.: City 7001—10 lines.)

**DRAKES TREAD CO. (CHART), LTD.**, Swan Lane Quarries, Little Chart, Ashford, Kent. Quarry owners; tarmac, bituminous macadam and dry roadstone suppliers. All inquiries to Area Office: Ditton Court Quarry, Larkfield, near Maidstone, Kent. (Tel.: W. Malling 3444.)

**HALL AND CO., LTD.**, Canning Street, Maidstone. (Tel.: Maidstone 51051.) and at Folkestone and Hayes. Pits at Lunford, near Larkfield, Riverhead. Gravel aggregates, concrete, plastering and building sand. Supercote precision-mixed concrete.

**HARRIS, M. P. AND CO., LTD.**, Station Road, Paddock Wood, Kent (Tel.: 285.) (See Sussex.)

**TILBURY CONTRACTING AND DREDGING CO., LTD.**, Postley, Maidstone. (Tel.: Maidstone 5401/2/3.) Suppliers of tinned, bituminous and dry Kentish roadstone, setts, walling, asphalt fillers, Scotch granite and kerbing.

## LANCASHIRE

**BROOMBYS, LTD.**, Sandisle, Milnthorpe (Tel.: 3251/2.) Westmorland. (See Westmorland.)

**SUCKTON QUARRY**, Broken stone, all grades. (Tel.: Mossley 123.) Or write Main Road, Oldham.

**CASTLETON SAND AND GRAVEL QUARRIES, LTD.**, Trows, Land Castleton, near Rochdale. Quarry Castleton 57100. Lee Quarries, Bacup. (Tel.: Bacup 287.) Washed pit sand, crushed washed stone aggregates; pitching stone.

**CROXSON GRAVEL LTD.**, Cheside, Stoke-on-Trent, Staffs. (Tel.: Tean 393.) Manchester Office: Blackfriars 2786/7. Plant capacity, 2,000 tons per day.

**HARTLEY, JOHN W., LTD.**, Lundshead Quarry, Carnforth, Lancs. (Tel.: Carnforth 100.) Large producers of highest quality washed sands, clean washed natural pebble and crushed gravel aggregates for all construction purposes.

**HILTON GRAVEL LTD.**, Rice Street, Liverpool Road, Manchester, 3. (Tel.: Deansgate 5455 and 5456.) Quarries at Cheside, Staffs. (Tel.: Tean 241.) And at Stoke-on-Trent. (Tel.: Longton 32188.)

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**HULLAND GRAVEL CO., LTD.**, Cheside, Stoke-on-Trent. (Tel.: Cheside 232/4, 2119 and 2195.) Manchester Office: 464 Wilbraham Road, Chorlton, Manchester, 21. (Tel.: Chorlton 2274/5.)

**PENMAENMAYR AND WELSH GRANITE CO., LTD.**, Immediate delivery ex stock. Liverpool and Preston Depots: Office: 7 Picton Road, Liverpool, 18. (Tel.: Sefton Park 7261.) Manchester Depot: Office: Cornbrook Road, Manchester, 18. (Tel.: Trafford Park 3630.)

**TERN HILL SAND AND GRAVEL CO., LTD.**, Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

**TRENTHAM GRAVEL CO., LTD.**, Lordsley Quarries, Willoughbridge, near Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concrete sand. Plant capacity: 2,000 tons per day.

**WITHERS LIMESTONE, LTD.**, Back Lane Quarry, Carnforth, Lancs. (Tel.: Carnforth 427.) Graded limestone aggregate to B.S.S., all sizes. Immediate delivery ex stock.

**X.L. GRANITE (INGOLTON), LTD.**, Head Office: Clapham, via Lancaster. (Tel.: Clapham 318/9.) (Or details, see Nottinghamshire.) All sizes and gradings of ingletton granite aggregate.

## LEICESTERSHIRE

**BARDON HILL QUARRIES (ELLIS AND EVERARD)**, LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London Office: VIGILANT 2530.) Best Leicestershire grey granite, dry and coated gradings in any specification, cold asphalt and wet mix. Prompt delivery.

**CLIFFE HILL GRANITE CO., LTD.**, Markfield, near Leicester. (Tel.: Markfield 561/2/3.) Granite aggregates to B.S.S. All sizes. Tinned and bituminous macadam, concrete aggregates, ballast, washed granolithic aggregate.

**DUSTON STONE QUARRIES, LTD.**, New Dunes, Northampton. (Tel.: Brighthelm 278 and 298.) Duston 508. (See Northamptonshire.)

**ENDERBY AND STONEY STANTON GRANITE CO., LTD.**, 21 New Walk, Leicester. (Tel.: 20891.) Quarries at Enderby. London Offices: 29 Dorset Square, N.W.1. (Tel.: Amb. 181.)

**HILTON GRAVEL LTD.**, Hamington Fields, near Shardlow, Derby. (Tel.: Shardlow 266.)

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**MOUNTSOREL GRANITE CO., LTD.**, 21 New Walk, Leicester. (Tel.: 20891.) Quarries at Mountsorel, near Loughborough. Tinned pink granite a speciality. London Office: 29 Dorset Sq., N.W.1. (Amb. 1741.)

## LEICESTERSHIRE

**WANIP GRAVELS, LTD.**, Wanip Road, Syston, Leicester. Any size or grading. (Tel.: Wanip 2327 and 1287.)

**WREAKE VALLEY GRAVELS CO., LTD.**, Mowbray, (Tel.: Pit—Ratby 205 or Leic. 2488.) All grades washed aggregate in road, tarmac, mineral aggregate.

## LINCOLNSHIRE

**CONINGSBY SUPPLY CO., LTD.**, Registered Office: The Broadway, Woodhall Spa, Lincs. (Tel.: Woodhall Spa 2322.) Screened limestone, hardcore, shingles, flint, hoggins. Ex quarries or delivered. (Tel.: Lincs. 2391.)

**DOW-MAC (PRODUCTS), LTD.**, Tallington, Stamford. All grades of washed sand and gravel. (Tel.: Market Deeping 2301.)

**GIBBONS, F. B. AND SONS, LTD.**, Registered Office: Welby House, Market Deeping, near Peterborough. (Tel.: Market Deeping 3321/2383.) Pits at Lincs. (Tel.: Market Deeping 3321/2383.)

**HARTSHOLME GRAVEL AND SAND CO., LTD.**, Hartsholme Wood, Doddington Road, Lincs. Selling agents: Hartsholme Sales, Ltd., 17 The Parade, Lincoln. (Tel.: Lincoln 2391.)

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**HURDIS, J. W. LTD.**, Victoria Street, Grimsby. (Tel.: Grimsby 3657.) and Calster (Tel.: Calster Lincs., 281.) Building, plastering, concrete and also gravel, ballast, hoggins and roadstone materials.

**PETERBOROUGH QUARRIES, LTD.**, Maxey, Peterborough. (Tel.: Market Deeping 2355—3 lines.) Quarry at Ropley, all grades of hardcore and broken stone. (See also Northants.)

**POLLARD, J. AND SON, TALLINGTON, LTD.**, Walk House, Langtoft, Peterborough. (Tel.: Tallington, near Stamford, Lincs. (Tel.: Market Deeping 2140.) All grades washed sand and gravel aggregates. For "Supercote" ready mix concrete, phone Market Deeping 3132.

**SCRETON BROTHERS (BARTON-UPON-HUMPHREY), LTD.**, 21 Castledown West, Barton-upon-Humber, Lincs. (Tel.: Barton 2199.) All grades washed sand and gravel, roadstone, hardcore, washed silica sand.

**TRENTFORD GRAVELS, LTD.**, Head Office: Deansgate, Grimsby. (Tel.: Grimsby 5354.) Washed and graded gravel and sand, roadstone, hardcore, slag, tinned, ashes, etc. Pits and quarries throughout the county.

## LONDON

**BARDON HILL QUARRIES (ELLIS AND EVERARD)**, LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

**BUCKRICKS COMPANY, LTD.**, 57 Piazza Chambers, Covent Garden, W.C.2. (Tel.: 481.) Green Garden 0534. All grades of washed aggregate, sand, building sand, asphalt, grit. Sterilised sand accurately graded to buyers' requirements.

**COX, H. AND SON, LTD.**, 33 Southampton Way, Camberwell, S.E.5. (Tel.: Rodney 2213—3 lines.)

**DANGERFIELD, F. J. AND CO., LTD.**, 261A Finchley Road, N.W.3. (Tel.: HAMstead 8044/8.) Gravel, limestone or slag, coated or dry, all sizes at pitching, granite, kerb and setts, telford curbs and other minerals by road or rail, or ex London pits.

**DORSET LIMESTONES, LTD.**, Bumpers Lane, Essex, Portland, Dorset. (Tel.: Portland 2207/8.) (For details, see Dorset.)

**DRINKWATER, W. W. (WILLESDEN), LTD.**, Boker Hill Lane, Willesden, N.W.10. (Tel.: Gladstone 6407/5.) Pits: Rush Green, Denham, Bucks. (Tel.: Denham 2241/2/3.) Also Staines Road, Hemel Heath, Middlesex. (Tel.: Hounslow 6222/3.)

**GABRIEL, C. LTD.**, Palmers Lane, Enfield, Middx. (Tel.: HOWard 4351/2/3.) Washed aggregate and building sand. Pits at Enfield and Hertford.

**GREENHAM SAND AND BALLAST CO., LTD.**, Chertsey Road, Feltham. (Tel.: Feltham 2281/2.) Pits at Hounslow, Feltham and Staines. Concrete aggregates, plastering and building sand.

**HALL AND CO., LTD.**, Chantry House, Ecclestone Street, S.W.1. (Tel.: Sloane 7122.) and at Enfield, Quilwich, Poplar and Wandsworth. Gravel aggregates, concrete, plastering and building sand.

**HARTIGAN, G. F. X., LTD.**, Washed sharp sand and B.S.S. 882. (See Buckinghamshire.)

**KEEN, J. AND SONS, LTD.**, 15 Granville Road, Epsom, Essex. (Tel.: Epping 2520.) All sands, ballast, shingle and hardcore supplied.

**LONDON BALLAST CO. LTD.**, Paddington Way, 155A Porchester Terrace North, Paddington, W.1. (Tel.: 2391.)

**READ, P. T., LTD.**, Gales Gardens, Bethnal Green, E.2. (Tel.: Shoreditch 9129/9.) All sands, ballast and shingles supplied and delivered; also mixed concrete. Pits: Fairlop Airfield, Forest Hill, Ilford, Essex. (Tel.: Hainault 6111/2/3.)

**SHAKEMANTLE QUARRY CO., LTD.**, Cinderford, Glos. (Tel.: Cinderford 3197.) "Dura" Facing, Engineering and Common Bricks in terra-cotta and golden brown. (See Glos.)

## MERIONETHSHIRE

**SALOP SAND AND GRAVEL SUPPLY CO.**, Adamston, Wellington (Tel.: 961), Salop.

## MIDDLESEX

**CROSS GEO. C. AND CO., LTD.**, Uxbridge Road, Southall. (Tel.: Southall 2264/5/6.) Concrete aggregates, hardcore, gravel, etc.

**DRINKWATER, W. W. (WILLESDEN), LTD.**, Boker Hill Lane, Willesden, N.W.10. (Tel.: Gladstone 6407/5.) Pits: Rush Green, Denham, Bucks. (Tel.: Denham 2241/2/3.) Also Staines Road, Hemel Heath, Middlesex. (Tel.: Hounslow 6222/3.)

**GABRIEL, C. LTD.**, Palmers Lane, Enfield, Middx. (Tel.: HOWard 4351/2/3.) Washed aggregate and building sand. Pits at Enfield and Hertford.

**GREENHAM SAND AND BALLAST CO., LTD.**, Chertsey Road, Feltham. (Tel.: Feltham 2281/2.) Pits at Hounslow, Feltham and Staines. Concrete aggregates, plastering and building sand.

**GRUNDY, S.**, 100/106 Harrington Road, Hounslow, Middlesex. (Tel.: Uxbridge 3651/2/3.) Gravel, ballast, shingle, hardcore, ashes, excavation and demolition.

**HALL AND CO., LTD.**, Chantry House, Ecclestone Street, S.W.1. (Tel.: Sloane 7122.) and at Enfield and Brentford. Pits: Bedfont and Staines. Gravel aggregates, concrete, plastering and building sand.

**LONDON BALLAST CO., LTD.**, (Tel.: Paddington Way, 155A Porchester Terrace North, Paddington, W.1.)



# CONTRACTORS' GUIDE TO AGGREGATES

## MIDDLESEX

**WICKHAMHAM GRAVEL CO., LTD.**, Feltham Hill Road, Hanworth. (Tel.: Feltham 2638.)  
**HEAD, P. T., LTD.**, Gales Gardens, Sechnal Green, E. (Tel.: Shoreditch 9128/9.) All sands, ballast and shingles supplied and delivered; also ready-mixed concrete. Pits: Edmonton Gravel Pits, Montebau Road, N.9 (Tel.: Shoreditch 8128/9), and Airline Airfield, Forest Road, Ilford. (Tel.: Goldsmith 6111/2.)  
**STUART MACKEY, LTD.**, Gordon Rd., High Wycombe. (Tel.: High Wycombe 5891/3.)

## MID-WALES

**BINGRY AND SONS, LTD.**, Longmoor, Kingsland, Lomington, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)  
**MASH ROCKS STONE AND LIME CO., LTD.**, Prestelaine, Radnor. (Tel.: Prestelaine 352.) (See Herefordshire for details.)  
**OLD RADNOR TRADING CO., LTD.**, Quarries in Herefordshire. (Tel.: Kingston 421.) (See Herefordshire.)  
**SALOP SAND AND GRAVEL SUPPLY CO.**, Admaston, Wellington. (Tel.: 961.) Salop.  
**TERN HILL SAND AND GRAVEL CO., LTD.**, Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

## MONMOUTHSHIRE

**MONMOUTHSHIRE ASSOCIATED QUARRIES, LTD.**, Head Office: 38 Chestnut Road, Newport, Mon. (Tel.: Newport 511/2.) Suppliers of all grades of concrete aggregates, road metal, pitching stone, tarmacadam and bituminous macadam in limestone, dolomite and blue pennant stone. Quarries throughout the county.  
**SHAKEMANTLE QUARRY CO., LTD.**, Cinderford, Glos. (Tel.: Cinderford 2197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)  
**WHITELIFF QUARRIES AND BRICKWORKS, LTD.**, Cleford, Glos. (Tel.: 3168/9.) (See Gloucestershire.)

## MONTGOMERYSHIRE

**MASH ROCKS STONE AND LIME CO., LTD.**, Prestelaine, Radnor. (Tel.: Prestelaine 352.) (See Herefordshire for details.)  
**SALOP SAND AND GRAVEL SUPPLY CO.**, Admaston, Wellington. (Tel.: 961.) Salop.

## NORFOLK

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)  
**JOHNSON, P. C. H., LTD.**, Station Road, Terrington St. Clement, near King's Lynn. (Tel.: Terrington St. Clement 248.) Washed and screened gravel, roadstone, washed sharp and fine sands.  
**ST. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2461/2/3/4 and Coney Weston 12.) Pits at St. Ives and Knettishall, near Thetford.  
**WHEATON STONE QUARRIES, LTD.**, Pix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamsted 1208/9.) Pits at Snetterton. Concrete aggregates, building sand.  
**WINDY GRAVEL PITS, LTD.**, Harvey Lane, Norwich. (Tel.: Norwich 33243/4.) Ashes and graded aggregates, stone and gravel delivered to all parts of Norfolk and Suffolk.

## NORTHAMPTONSHIRE

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)  
**BICESTER STONE CO., LTD.**, Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 391/2.) Manufacturers and suppliers of all grades limestone, tarmacadam, dry, pitching stone, hardcore, etc.  
**MAYBROOK, E. W. LTD.**, Newton Road, Higham Ferrers, Northants. (Tel.: Rushden 3344 and 3345.) All grades of washed and graded aggregate, B.S.S., building sand, hardcore.  
**DOW-MAC (PRODUCTS), LTD.**, Tillingham, Stamford. All grades of washed sand and gravel. (Tel.: Market Deeping 2301.)  
**DUSTON STONE QUARRIES, LTD.**, New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) Producers of building and walling stone, roadstone, hardcore, broken stone, ashes, sand, gravel and hoggin. Immediate delivery throughout Northamptonshire.  
**FERRERS AND AGGREGATES, LTD.**, Northampton Road Quarries, Rushden, Northants. (Tel.: Rushden 2354/5.) Largest producers in the county of all grades of high-quality concrete aggregate to B.S.S. Deliveries throughout Northamptonshire and adjoining counties.

**OSBORN, F. B., AND SONS, LTD.**, Welby House, Market Deeping, Peterborough. (Tel.: Market Deeping 3321/3323.) (See Lincolnshire for details.)  
**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)  
**KETTON STONE CO. (Prop. Andrew's Garage),** Ketton, near Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica slay. Quarries at Ketton.  
**MACKENZIE, A. J., LTD.**, Ransome Road, Northampton. (Tel.: Northampton 589.) Producers of all grades of washed aggregates, building sand, tarmacadam (lime/sand mortar). Prompt deliveries.  
**MILN BARON AND LIGHTER CO., LTD.**, Market Chambers, Peterborough. (Tel.: 5534/5.) and Ship End Quarries, Wansford near Peterborough. (Tel.: Wansford 344/5.) Roadstone, hardcore, broken stone, ballast, ashes, silica slay and sand.  
**NEWARK (PETERBOROUGH) SAND AND GRAVEL CO., LTD.**, 123 Eastfield Road, Peterborough. (Tel.: Peterborough 2091.) All grades washed and screened gravel and sand.  
**PETERBOROUGH QUARRIES, LTD.**, Sandylands, Masey, Peterborough. (Tel.: Market Deeping 2355.) Eight quarries supplying all grades of hardcore and broken stone. Also Wansford, Wansford. All grades gravel and sand at Masey.

## NORTHAMPTONSHIRE

**POLLARD, C. AND SON (TALLINGTON), LTD.**, Walk House, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)  
**STORTON, F. E. LTD.**, Weedon Road, Northampton. (Tel.: Northampton 3358.) Producers of washed gravel and sand to B.S.S.

## NORTH WALES

**CAWOOD, WHARTON AND CO., LTD.**, Pityll Gwyn Quarry, Llanymorion, near Mold. (Tel.: Llanymorion-yn-lal 27.) Crushed limestone and tarred macadam, all grades.  
**CHESTER AND NORTH WALES TARRIED MACADAM CO., LTD.**, Llanymorion, near Mold. (Tel.: Llanymorion-yn-lal 43.) Hard, broken limestone; dry and sealed to B.S.S. Inquiries to Registered Office—Market Chambers, Tower Square, Tunstall, Stoke-on-Trent. (Tel.: Stoke-on-Trent 8809/4.)  
**ENSTON BRGS.**, Llyn Iaf Quarry, Clynogfawr, Caernarvon. (Tel.: Clynogfawr 297/8.) All sizes crushed, washed natural sand and gravel. Highest quality. Precast concrete products, ex our Griffiths Crossing Factory, Caernarvon. (Tel.: Caernarvon 2535/8.) Crushed granite, ex our quarry, Pengwern and Gwydyr Quarries, Ltd., Trefriw, Llanrwst, Denbighshire. (Llanrwst 38.)  
**GWALCHMAI GRANITE QUARRY, Anglesey.** Producers of the North Wales Construction Co., Ltd. (Tel.: Gwalchmai 292.) All sizes dry and coated granite materials, hardcore, filling, ready mixed concrete, etc. Any quantity per day; immediate delivery ex stock. Coated granite also available.  
**PENMAENMAWR AND WELSH GRANITE CO., LTD.** Quarries at Penmaenmawr. (Tel.: 2256/8.) and at Trevor. (Tel.: Clynogfawr 223.) Caernarvonshire. All sizes and gradings of crushed granite aggregates, ex quarry or delivered.  
**TERN HILL SAND AND GRAVEL CO., LTD.**, Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

## NOTTINGHAMSHIRE

**AIZLEWOOD, DOUGLAS E.**, Bow Bridge, Rotherham. (Tel.: Rotherham 2822.) Crushed and graded limestone; all grades of washed gravel and sands.  
**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)  
**GLENE QUARRIES, LTD.**, Central Chambers, Wellington, Rotherham. (Tel.: Rotherham 2273.) Crushed and graded stone, concrete sand, building sand, plastering sand and crushed gravel; could be collected ex quarry or delivered.  
**GUNTHORPE GRAVELS (1958), LTD.** (Tel.: Nottingham 77357; and Works: Lowdham 2131.) (An associate company of T. C. Campbell, Ltd.) All grades washed gravel and sand to B.S.S.  
**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) Quarries at Hoveringham, Holme Pierrepont, Colwick, Bleanby and Newark. Other quarries throughout the county—deliveries in 21 counties. All grades of washed gravel and sand to any specification. Crushed quartzite for surface dressing of roads a specialty. Combined plant capacity 20,000 tons per day.  
**NEWARK GRAVEL AND CONCRETE CO., LTD.**, Grove St., New Balderton, Newark, Notts. (Tel.: Newark 401.) All grades washed sand and aggregates.  
**NORTH NOTTS. GRAVEL CO., LTD.**, Bellmeor, Retford, Motts. (See Yorkshire.)  
**SALISBURY AND WOOD, LTD.**, Matlock. (Tel.: 272/373.) (For details, see Derbyshire.)

## OXFORDSHIRE

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)  
**BICESTER STONE CO., LTD.**, Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 391/2.) Manufacturers and suppliers of all grades limestone, tarmacadam, dry, pitching stone, hardcore, etc.  
**CURTIS, J. AND SONS, LTD.**, Botley Works, Oxford. (Tel.: Oxford 41081/2/3.) Sand and all grades of washed aggregates. Pits at Radley, near Abingdon. (Tel.: Abingdon 441.)  
**DANGERFIELD, P. J. AND CO., LTD.**, 281A Finchley Road, London, N.W.3. (Tel.: HAMPTON 8044/8.) For all road aggregates, kerbs, cotts. (See London.)  
**DUSTON STONE QUARRIES, LTD.**, New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) (See Northamptonshire.)  
**GRUNDON, S. (SWEILME), LTD.**, Sweilme, Oxon. (Tel.: Sweilme 20 and 37.) London Office (Tel.: Uxbridge 36511/2/3.) All grades washed aggregates, path hoggin, broken stone, building sand.  
**HALL AND CO., LTD.**, Cardiff Road, Reading. (Tel.: 50458.)  
**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)  
**SNITTERTON STONE QUARRIES, LTD.**, Pix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamsted 1208/9.) Roadstone, Cotswold building and walling stone.

## RADNORSHIRE

**BINGRY AND SONS, LTD.**, Longmoor, Kingsland, Lomington, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)  
**MASH ROCKS STONE AND LIME CO., LTD.**, Prestelaine, Radnor. (Tel.: Prestelaine 352.) (See Herefordshire for details.)  
**OLD RADNOR TRADING CO., LTD.**, Quarries in Radnorshire. (Tel.: Kingston 421.) (See Herefordshire.)  
**SALOP SAND AND GRAVEL SUPPLY CO.**, Admaston, Wellington. (Tel.: 961.) Salop.

## RUTLAND

**SIDBORN, F. B., AND SONS, LTD.**, Welby House, Market Deeping, Peterborough. (Tel.: Market Deeping 3321/3323.) (See Lincolnshire for details.)  
**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)  
**KETTON STONE CO. (Prop. Andrew's Garage),** Ketton, near Stamford. (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica slay. Quarries at Ketton.  
**PETERBOROUGH QUARRIES, LTD.**, Sandylands, Masey, Peterborough. (Tel.: Market Deeping 2355.) Quarry at Greatham, all grades of broken stone and hardcore. (See also Northamptonshire.)  
**POLLARD, C. AND SON (TALLINGTON), LTD.**, Walk House, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)

## SHROPSHIRE

**BALLIDON QUARRIES, LTD.**, Ballidon, near Ashbourne, Derbyshire. (Tel.: Farwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes; coated limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.  
**BINGRY AND SONS, LTD.**, Longmoor, Kingsland, Lomington, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)  
**DORRINGTON SAND AND GRAVEL QUARRIES,** near Shrewsbury. (Tel.: Dorington 278.) Supplies of ready mixed concrete, building sand, washed sand, washed and crushed gravel.  
**MASH ROCKS STONE AND LIME CO., LTD.**, Prestelaine, Radnor. (Tel.: Prestelaine 352.) (See Herefordshire for details.)  
**OLD RADNOR TRADING CO., LTD.**, Quarries in Radnorshire. (Tel.: Kingston 421.) (See Herefordshire.)  
**SALOP SAND AND GRAVEL SUPPLY CO.**, Admaston, Wellington. (Tel.: 961.) Salop.  
**TERN HILL SAND AND GRAVEL CO., LTD.**, Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)  
**TRENTHAM GRAVEL CO., LTD.**, Lordley Quarries, Wiloughbridge, near Market Drayton, Staffs. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concreting sand. Plant capacity 2,000 tons per day.

## SOMERSET

**ASHAM QUARRY CO., LTD.**, Chantry, Frome. (Tel.: Nunney 351.) All sizes limestone block, broken and aggregates. Tarrad and bituminous macadam to B.S. ex quarry and delivered.  
**DANGERFIELD, P. J. AND CO., LTD.**, 281A Finchley Rd., London, N.W.3. (Tel.: HAMPTON 8044/8.) For all road aggregates, kerbs, cotts. (See London.)  
**HALL AND CO., LTD.**, Longmoor House, Ashton Vale Road, Bristol, 3. (Tel.: 63001.) Gravel aggregates, concrete, plastering and building sand.  
**NORTH WILTS. QUARRYING CO.**, Noble Street, Sherston, Wilts. (Tel.: Sherston 321—3 lines.) (For details see entry under Wiltshire.)  
**WAINWRIGHT, JOHN, AND CO., LTD.**, Sharnes Mallet, (Tel.: Shepton Mallet 2366/7.) All sizes basalt, coated basalt, concrete aggregates, blinding media, building blocks and slabs.

## SOUTH SCOTLAND

**ESK MANUFACTURING CO., LTD.**, Cumberland. (Tel.: Carlisle 2-4941.) (For details, see Cumb.)

## SOUTH WALES

**AMALGAMATED AGGREGATES, LTD.**, 97 Cowbridge Road East, Cardiff. (Tel.: Cardiff 25249.) All sizes crushed and graded aggregate, dry or washed. High calcium or dolomitic limestone, also all grades coated stone. Quarries near Newport, Cardiff, Bridgend, Pontypridd.  
**HALL AND CO., LTD.**, 34 High Street, Narberth. (Tel.: 74.)  
**PENMAENMAWR AND WELSH GRANITE CO., LTD.**, 18 Quay Street, Cardiff. (Tel.: 20645/7.) All sizes and gradings of crushed granite aggregate from near Swansea, Dock, Cardiff. Dolomite aggregates from Ewenny Quarry, Bridgend. (Tel.: Bridgend 3786.) Coated stone also available.  
**SESSIONS AND SONS, LTD.**, West Dock, Cardiff. Producers of coarse and medium dolomite and graded to British Standards. Branches Newport and Swansea. (Also Gloucester and Hereford.)  
**SHAKEMANTLE QUARRY CO., LTD.**, Cinderford, Glos. (Tel.: Cinderford 2197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)  
**SOUTH WALES SAND AND GRAVEL CO., LTD.**, Head Office: P.O. Box 8, Seaforth Buildings, Swansea. (Tel.: Swansea 53071.) Sand and gravel merchants, builders' merchants, Pennant Quarry owners, slabs, hardcore, shales, blinding, slinger filter media. Depots: Cardiff, Newport, Barry, Port Talbot, Briton Ferry, Swansea, Llanelli.

## STAFFORDSHIRE

**BALLIDON QUARRIES, LTD.**, Ballidon, near Ashbourne, Derbyshire. (Tel.: Farwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes; coated limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.  
**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)  
**CROXDEN GRAVEL, LTD.**, Cheddle, Stoke-on-Trent, Staffs. (Tel.: Tean 393.) Manchester Office: Blackfriars 3766/7. Plant capacity 2,000 tons per day.  
**DUNNING AND SON, LTD.**, Wood End Gravel Pits, Hednesford. (Tel.: Hednesford 302/325/251.) All grades of washed sand and gravel supplied to B.S.S.  
**HILLTOP GRAVEL, LTD.**, Cheddle, Staffs. (Tel.: Tean 241.) Also at Lorton, Stoke-on-Trent. (Tel.: Lorton 32108) and Bredford, Burton-on-Trent. (Tel.: Burton 6081.)  
**HULLAND GRAVEL CO., LTD.**, Cheddle, Stoke-on-Trent. (Tel.: Cheddle 232/4, 2119 and 2198.) Manchester Office: 464 Wilbraham Road, Chorlton, Manchester, 21. (Tel.: Chorlton 2274/5.)  
**KEY LIME, LTD.**, Oakmoor, Staffs. (Tel.: Oakmoor 385-386.) Clean graded dry limestone, all to B.S.S. sizes. Output 1,000 tons per day.



# CONTRACTORS' GUIDE TO AGGREGATES

## STAFFORDSHIRE

**RUGELEY GRAVEL CO., LTD.**, Rugeley Quarries, Rugeley, Staffs. (Tel.: Rugeley 251/2.) Entirely modern plant. Sand classifiers. Finest aggregates to B.S.S. Large output.

**SALISBURY AND WOOD, LTD.**, Matlock. (Tel. 272/273.) (For details, see Derbyshire.)

**SHIRE OAK GRAVELS, LTD.**, Lichfield Road, Walsall Wood, Staffs. Washed crushed gravel and washed sand. (Tel.: Brownhills 3253.)

**TERN HILL SAND AND GRAVEL CO., LTD.**, Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) Pit sand, concrete sand, and all grades of washed crushed gravel. Hardcore, clinkers, ashes and hoggins.

**TRENTHAM GRAVEL CO., LTD.**, Lardsley Quarries, Willoughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concreting sand. Plastering sand. Plant capacity 2,000 tons per day.

**WARDLOW LIMESTONE, LTD.**, Cauldon Low, N. Staffs. (Tel.: Oakmoor 366.) Graded limestone for all purposes. Ground limestone.

**WINDMILL SAND AND GRAVEL QUARRIES, LTD.**, Cannock Road, Wolverhampton. (Tel. 31108.) Concrete aggregates, plastering, building and asphalt sand. All to B.S.S.

## SUFFOLK

**ALRESFORD SAND AND BALLAST CO., LTD.**, Alresford Creek, near Colchester, Essex. (Tel.: Wivenhoe 341/494.) Suffolk area pits at Bures and Boxford. All grades washed aggregate, sand; also hoggins.

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)

**BICKERSON, M. (CONTRACTORS), LTD.**, Gloucester Street, Cambridge. (Tel.: Cambridge 56973/4.) (See Cambs.)

**HALL AND CO., LTD.**, West End Road, Ipswich. (Tel.: Ipswich 55593/4.) Pits at Kesgrave and Homersfield, near Harleston. Gravel aggregates, concreting, plastering and building sand.

**MACLAREN BROS. (KENNETT), LTD.**, Station Road, Kennett, Cambs. (Kentford 333/4.) (See Cambs.)

**ST. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2461/2/3/4.) Conev Weston 12 and Halstead 2523.) Pits at St. Ives, Knettishall, near Thetford, and Gosfield, near Halstead.

**THORPE GRAVEL PITS, LTD.**, Harvey Lane, Norwich. (Tel.: Norwich 33243/4.) (See Norfolk.)

**WEBB, G., CAMBRIDGE, 35 Magrath Av., Cambridge.** (Tel.: 59966, 53969, 50353 (night).) (See Cambs.)

## SURREY

**COFF, HARRY A., LTD.**, Buckhurst Hill, Chesham, Ascot, Berks. (Tel. 1026/7.) (See Berkshire.)

**DANGERFIELD, F. J., AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

**EASTWOODS SALES, LTD.**, Eastwood House, City Road, E.C.1. (Tel.: Clerkenwell 2040.) Longside Sand and Ballast Pit, Thorpe nr. Egham. (Tel.: Egham 3121.) Runfold Sand and Ballast Pit, Runfold, nr. Farnham, Surrey. (Tel.: Runfold 2020.) Producers and distributors of all grades of washed aggregates.

**HALL AND CO., LTD.**, Victoria Wharf, Croydon. (Tel.: Croydon 4444.) Other main depots at Coulsdon, Epsom, Mitcham, Oxted, Purley, Redhill, Tadworth and Woking. Pits at Sand and Redhill. Gravel aggregates, concreting, plastering and building sand, Surecrete precision-mixed concrete.

**HARRIS, M. P., AND CO., LTD.**, Kingston Road, Leatherhead, Surrey. (Tel.: 349/7.) (See Sussex.)

**JAMES AND CO., LTD.**, 2C Buckingham Avenue, Slough. Sand, aggregates, hardcore, ashes, bulldozing & bulk excavation. (Tel.: Slough 20361/2/3.)

**LONDON BALLAST CO., LTD.** (Tel.: Paddington 5064), 155A Porchester Terrace North, Paddington, W.2.

**MARCO (AGGREGATES), LTD.**, Pit: Norland Lane, Thorpe, near Egham. (Tel.: Chertsey 3401.) Producers and distributors of high-grade washed sand, shingle, ballast, etc.

**MARCO (CROYDON), LTD.**, Hampton Road, West Croydon. (Tel.: Thornton Heath 4236/7/8.) All building and road aggregates.

## SURREY

**MIDLAND AGGREGATES, LTD.**, Eversley, near Basingstoke, Hants. (Tel.: Eversley 2250.) Washed and pit sand and all aggregates.

**TWICKENHAM GRAVEL CO., LTD.**, Government Road, Ash Vale. (Tel. 2349.)

**WELLS, A. L., AND SON, LTD.**, Builders' Merchants, Garlands Road, Leatherhead. (Tel. 3018/9.) Sand aggregates, hardcore, ashes, cement. Clinker block manufacturers.

**WINTON, WM. R., LTD.**, Sand, Woking. (Tel.: Ripley 2454/5.) All grades sand, shingle, ballast, hoggins and ashes. Clinker block manufacturers.

## SUSSEX

**AVANN, F.**, Cavendish Avenue, Eastbourne. (Tel. 4969/70.) Washed and graded ballast, sand, bricks, breeze and concrete blocks, hardcore, clinker, tarmac, etc., supplied.

**HALL AND CO., LTD.**, 16 Chapel Road, Worthing. (Tel.: Worthing 7840.) Other main depots at Boxhill, Bognor, Crowborough, East Grinstead, Eastbourne, Horsham, Hove and Seaford. Pits at Washington, Crumblies near Eastbourne, Chichester, Rye Harbour, Midhurst, Shoreham and Portlaine. Gravel aggregates, concreting, plastering and building sand. Surecrete precision-mixed concrete.

**HARRIS, M. P., AND CO., LTD.**, West Station Goods Yard, Boxhill. (Tel. 61.) Cavendish Place, Eastbourne. (Tel. 3800.) Dominion Road, Worthing. (Tel. 8822.) Whitbread Lane, Northiam. (Tel. 2211.) Station Goods Yard, Haywards Heath. (Tel. 1750.) Crawley Road, Horsham. (Tel. 3366.) The Hornet, Chichester. (Tel. 4181.) All grades aggregates, hardcore, clinker, ashes, etc.

**WRIGHT, C., AND SONS, (STON), LTD.**, 19 Bristol Gardens, Brighton, 7. (Tel.: Brighton 63357 and 62406.) All-in ballast, washed and crushed shingle, sand, ashes, hardcore, chalk, bricks, etc.

## WARWICKSHIRE

**BALLIDON QUARRIES, LTD.**, Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621 and wet-mix; large output reliable deliveries.

**DUSTON STONE QUARRIES, LTD.**, New Duston, Northampton. (Tel.: Brixworth 278 and 798; Duston 505.) (See Northamptonshire.)

**HALL AND CO., LTD.**, 188 Lichfield Road, Four Oaks, Sutton Coldfield. (Tel.: Four Oaks 356.) Gravel aggregates, concreting, plastering, building sand.

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**JUDKINS, LTD.**, Granite Quarries, Yettle Hill, Nuneaton. (Tel.: Nuneaton 3411—10 lines.) All sizes washed granite aggregate, tarred and bituminous macadam. Slab mix a speciality.

**KEVIN LIME CO., LTD.**, Oakmoor, Staffs. (Tel.: Oakmoor 385/386.) Clean graded dry limestone, all to B.S.S. size. Output 1,000 tons per day.

**SHAKEMAN QUARRY CO., LTD.**, Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

**SHIRE OAK GRAVELS, LTD.** (See Staffordshire.)

**WARDLOW LIMESTONE, LTD.**, Cauldon Low, N. Staffs. (Tel.: Oakmoor 366.) (For details, see Staffs.)

**WARWICKSHIRE QUARRIES, LTD.**, Bedworth Road, Nuneaton. (Tel.: Coventry 67821.) Red shale, screened for roads, car parks, sports grounds, tennis courts, etc., attractive colour.

## WESTMORLAND

**BROOMS LTD.**, Sandside, Milnthorpe, Westmorland. (Tel.: Milnthorpe 3251/2.) All grades washed crushed gravel sand, limestone, granite chippings, pitching, tarmacadam, rockery stone, etc.

**ESK MANUFACTURING CO., LTD.**, Cumberland. (Tel.: Carlisle 2-4941.) (For details, see Cumb.)

## WILTSHIRE

**BULL BROS. S. AND L., LTD.**, 126A High Street, Winchester. (Tel. 2264.) (See Hampshire.)

**COKE, T. F. (CHELTENHAM), LTD.**, 267 Gloucester Road, Cheltenham. (Tel.: 4717/4874.) (See Glos.)

**DANGERFIELD, F. J., AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

## WILTSHIRE

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

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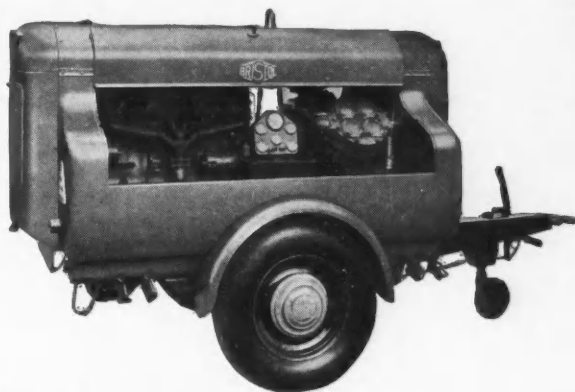
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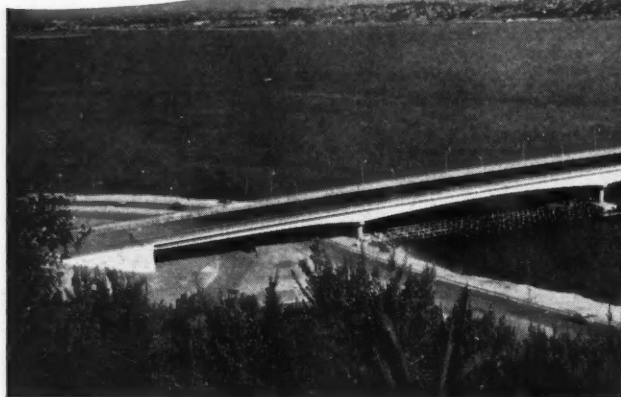
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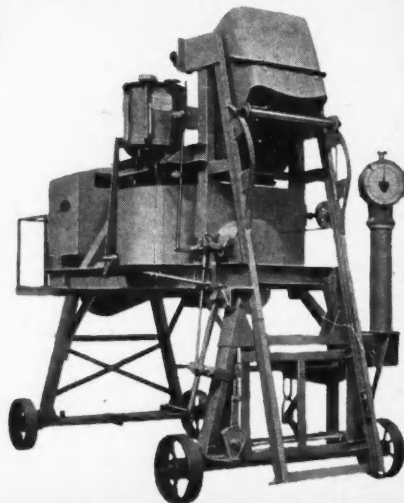
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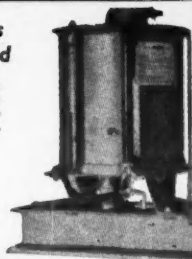
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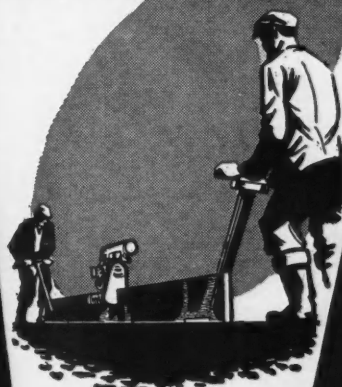
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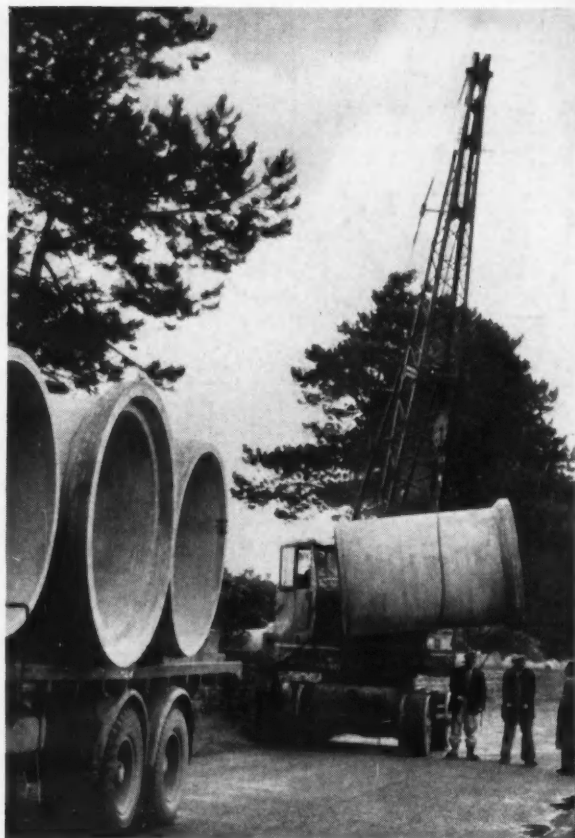
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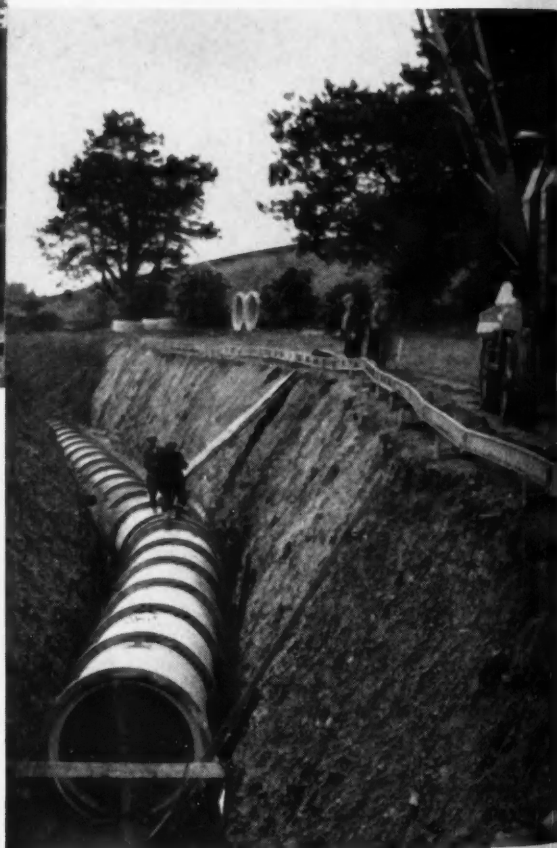
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